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Power Steering: the Politics of Utility Privatization in India

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Power Steering: the Politics of Utility Privatization in India

by

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Power Steering: the Politics of Utility Privatization in India

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In this dissertation I offer an explanation for why Indian states are undertaking economic liberalization at different rates, focusing on reforms to the electricity sector. In the period between 1991 and 2003, India's states restructured their electricity systems to vastly different degrees. The dissertation evaluates three variables that feature prominently in the literature on economic policy change: ideological predilections of governing elites, external pressures like those coming from international financial institutions, and state-society interactions. I argue that it is the last explanation, focusing on the degree to which the potential "losers" from reform dominate state politics—that most compellingly accounts for the unevenness in state-level reforms. In my work, I lay greater analytic weight on the role of rural actors than much of the existing literature on the political economy of market reforms.

The primary independent variable that explains this variation in reform outcomes is the organization and political strength of societal actors in each state, particularly rural and industrial constituencies, and middle class interests. In some parts of India, the advent of Green Revolution technologies in the late 1960s meant that farmers—chiefly larger landowners—became the primary beneficiaries of extensive development

subsidies, including those for electricity. During India's period of economic liberalization in the 1990s, these beneficiaries constituted the main opponents of privatization, which today threatens to change the rules of the game by allocating resources according to market logics. Given these dynamics, where farm sectors are large or well-organized, reform has not proceeded. In the absence of rural political clout, state elites elected to privatize in order to satisfy industrial and urban constituents and signal the state's openness to private capital inflows.

By comparing outcomes across states within the single country of India, the research design can control for some variables that are proposed as determinative of government policy, like electoral institutions and macroeconomic shock. I have selected cases to both capture variation of the dependent variable and control for other plausible explanations, such as ideology, financial crisis, and external pressure.

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Abbreviations

APERC	Andhra Pradesh Electricity Regulatory Commission
APSEB	Andhra Pradesh State Electricity Board
AT&C	Aggregate Technical and Commercial losses
BEST	Bombay Electric Supply and Tramways Company
BJP	Bharatiya Janata Party
BKU	Bharatiya Kisan Union
BSES	Brihanmumbai Suburban Electric Supply, formerly Bombay Suburban Electric Supply Company
CAD	Constituent Assembly Debates
CEA	Central Electricity Authority
CESC	Calcutta Electricity Supply Corporation
CESCO	Central Electric Supply Company
CMIE	Centre for Monitoring the Indian Economy
CPI	Communist Party of India
CPI(M)	Communist Party of India, Marxist
DESU	Delhi Electricity Supply Undertaking
DISTCOs	Distribution companies
DVB	Delhi Vidyut Board
EA03	Electricity Act of 2003
GoI	Government of India
GP	Ganatantra Parishad
GRIDCO	Grid Corporation of Orissa
IEMs	Industrial Entrepreneurs Memoranda
IFIs	international financial institutions
INC	Indian National Congress
IPPs	Independent Power Producers
IPS	Irrigation pumpset
JD	Janata Dal
kWh	kilo-Watt-hour
MCD	Municipal Corporation of Delhi
MERC	Maharashtra Electricity Regulatory Commission
MLA	Member of legislative assembly
MOU	Memorandum of Understanding
MSEB	Maharashtra State Electricity Board
MW	megawatt
NALCO	National Aluminum Company Limited
NESCO	Northern Electric Supply Company
NHPC	National Hydro Power Corporation
NTPC	National Thermal Power Corporation
OERC	Orissa Electricity Regulatory Commission
OHPC	Orissa Hydro Power Corporation
OPGC	Orissa Power Generation Corporation

OSEB	Orissa State Electricity Board
PPA	Power purchase agreement
PSEB	Punjab State Electricity Board
RWAs	Resident Welfare Associations
SC	Scheduled caste
SEBs	State Electricity Boards
SERCs	State Electricity Regulatory Commissions
SOUTHCO	Southern Electric Supply Company
ST	Scheduled tribe
T&D	Transmission and distribution
TDP	Telegu Desam Party
TPC	Tata Power Company
WESCO	Western Electric Supply Company

Chapter 1: Introduction

In India, demand for electricity habitually exceeds supply. This scarcity forces the state as the largest owner of utilities to make allocative decisions that have profound implications for nearly everyone: industrialists for whom energy is arguably the most critical input; farmers who rely on electric-powered tubewells to pump water from subterranean reservoirs; India's famed high-tech ventures and call centers; and also ordinary citizens, many of whom now live an energy-dependent modern life replete with computers, televisions, washing machines, and air-conditioners. The outcomes of these allocative decisions also have implications for the direction of economic development in India. A recent example of how government decisions about energy allocation produce winners and losers, and shape economic outcomes, comes from the affluent northern state of Punjab, where in the summer of 2006 the state government declared an indefinite power cut on factories that run induction furnaces.[1] These produce steel, a key ingredient for most light and heavy industrial production in the state, and thus industrialists were furious. Yet the same government has been giving farmers free electricity for much of the last decade.

If power is essential for new economy ventures, not to mention rural irrigation and industrial production, who decides which groups will get the benefit of this limited resource and which will be deprived, and who will pay the cost of expanding supply?

[1] Shveta Pathak, "Power Crisis Hits Industry Hard," *The Tribune*, Ludhiana edition, July 7, 2006; "Units flay PSEB move to shut down furnaces," *The Tribune*, Ludhiana edition, September 5, 2006. These and other articles report that at least 10,000 small, medium, and large manufacturers in Punjab that rely on steel produced by induction furnaces would be impaired, impacting over 25% of the industrial workforce in the state.

What are India's development prospects without cheap and reliable power? And what is the political economic milieu in which reform of the power sector is undertaken? In this dissertation I look at how fundamental tensions between sectors and classes in the allocation of finite resources are being resolved in the Indian context, focusing on the period of economic liberalization and market reforms in India, and on the electricity sector specifically.[2] In this project, the critical reform is utility privatization. Because market reforms introduce new political and economic actors and change the rules of the game, they threaten to alter the logic that has guided allocative decisions in the past. Not surprisingly, then, these policy choices have become politically contentious.

Although this study focuses on India, questions about how distributive conflicts affect and are in turn affected by plans for neoliberal economic reforms are not particular to India. After several decades of conforming to policies prescribed by the Washington consensus, countries around the world are now grappling with the political and economic consequences. The rise of leftist governments in Latin America—many of which were brought to power by electorates dissatisfied with the outcomes of economic liberalization over the last few years—provides an example of this. In Bolivia, for example, privatization of utilities was a lightening rod for public protest during the late 1990s and early 2000s, and was among the factors helping to propel the movement that brought Evo Morales to power in 2005.

[2] Energy resources can effectively be called finite in the short-term for two reasons. Current energy supply is restricted by the long gestation of new generating plants and the inefficiencies of importing energy over long distances.

In India's federal structure, decisions about the electricity sector are made by state governments; this makes it an ideal comparative context in which to examine how and why the nature and policy outcomes of distributive battles differ from region to region. Why, as in the earlier example from Punjab, are some state governments guided by the political imperatives of keeping production costs low for farmers even at the risk of stalling or eliminating industrial production? Why are other state elites guided by the desire to court private industrial capital, even at the cost of failing to meet basic welfare needs for the majority of the state's population?

Economic liberalization—understood here as the deregulation and opening up of markets to private capital—is a process unfolding in most sectors of the Indian economy, although it has been temporally and spatially uneven. Of all the many varieties of liberalization, we can expect privatization of network utilities—electricity, water, telecommunications, railways, and gas—to have broad distributional implications because all sectors and classes avail of these goods. We can therefore expect reforms to these sectors to be among the most politically difficult to implement in the context of democratic institutions, and especially so in the context of supply scarcity.[3] In short, nearly everyone has a stake in the fight.

The empirical question that lies at the heart of this dissertation, then, is: what explains unevenness in utility privatization across states in India? I examine the privatization of electric supply, or distribution, companies from the early 1990s up until

[3] Again we can look to Latin America for a compelling illustration, where privatization has only become less popular over time, and public protests have hindered privatization in these sectors across the continent: Mary M. Shirley, "Why is Sector Reform so Unpopular in Latin America?" *The Independent Review*, Vol. 10, No. 2 (Fall 2005): 195-207.

the passage of the Electricity Act 2003 (EA03) by the Indian parliament. The 2003 legislation mandated certain policies of restructuring, in essence restricting the discretionary powers of elected leaders at the state level. During the decade between the start of reforms in 1991 and the passage of the EA03, some state governments moved fairly quickly to vertically separate publicly-owned electric utilities and privatize constituent units, including the distribution functions. Other states retained the publicly-owned model that had dominated the Indian sector—and indeed most electricity industries around the world—since the mid-twentieth century. This thesis uncovers the conditions that compelled some states to privatize while binding others to the older, statist model.

Through a comparative analysis of politics in Andhra Pradesh, Maharashtra, Orissa, and Delhi (see Map 1 on the following page), I show that where rural elites have been able to protect their rights to subsidized electricity, privatization has been stalled. Electricity subsidies have played a critical role in building and maintaining rural political coalitions in certain states. In the absence of rural power, however, states pursued privatization as a means of satisfying industrial consumers and signaling an openness to private capital. The individual case studies then go further to ask why rural elites have been much more powerful in some states than in others, and suggest that political geography and historical trajectories of development help to explain this variation. Specifically, rural elites have ascended to power in areas where caste institutions, historic land tenure relations, and modern rural cooperatives have enabled rural groups to organize politically.

Map 1: Map of India showing in bold the locations of the four case studies: Delhi, Maharashtra, Orissa, and Andhra Pradesh.
Source: Central Intelligence Agency, in the collection of the Perry-Castañeda Library at the University of Texas, Austin.
Copyright: Public domain.

To substantiate my claims, I weave together information from public sector archives, especially utility reports, but also other government ministries and state-owned enterprises; data from interviews with relevant policy-makers, politicians, rural leaders, and union activists; media reports; legislative debates from the Indian Parliament and Constituent Assembly; and secondary scholarship. I conducted this research over a thirteen month period, from September 2002 to October 2003, based primarily in Delhi, Mumbai, and Pune, but with field visits to other research sites around the country. A three-month follow-up visit in the summer of 2005 in Mumbai and Pune allowed me to accumulate additional archival material.

My work draws from and speaks to several of the literatures in comparative politics and political economy, most directly to the vast body of work examining the political economy of economic reform. Research design and case selection allow me to test rival hypotheses in the literature, specifically, the role of economic crisis, ideology, and external pressures arising from either donor conditionality or policy diffusion. My research extends our understanding of the politics of neoliberal reform by focusing on an understudied actor—rural elites. With respect to a second literature—on urban bias in late developing countries—I argue that the rural-urban dyad underpinning most of this literature is underspecified. Intra-rural inequalities, both within a single region and across the countryside, are equally significant in explaining development and policy outcomes, as analyses of the rural beneficiaries of electricity subsidies show.

The cases were chosen to capture sufficient variation of the dependent variable—privatization attempts and outcomes. The institutional structures of the electricity sectors

across the states in India are similar enough that comparison is a sensible project. Furthermore, paired comparisons within the four cases also allows me to assess rival theories of economic reform empirically, which a subsequent section that situates my argument within the broader field of literature on the politics of economic reform will flesh out.

For a number of reasons I employ a sub-national comparative design, and a sectoral focus on the electricity industry, rather than a single case study, a study of electricity reform at an all-India level, or a cross-national study of economic liberalization. An authoritative body of research asks important questions about political economy, taking India as a case study. Among the questions addressed by this literature are what explains dirigisme, what accounts for failures of development, and more recently, what explains India's brand of neoliberalism.[4] In much of this work the analysis takes place at a national register. A few other studies compare state-level policy variation, but mainly these studies focus on the period prior to neoliberal reforms.[5] This latter body of work does show, however, that analyzing differences among states in a federal structure yields novel answers to established research questions.

[4] Francine Frankel, *India's Political Economy, 1947-1977: the Gradual Revolution* (Princeton: Princeton University Press, 1978); Pranab Bardhan, *The Political Economy of Development in India* (Oxford: Basil Blackwell, 1984); Lloyd Rudolph and Susanne Rudolph, *In Pursuit of Lakshmi: the Political Economy of the Indian State* (Chicago: University of Chicago Press, 1987); Ashutosh Varshney, *Democracy, Development, and the Countryside: Urban-Rural struggles in India* (Cambridge: Cambridge University Press, 1995); Stuart Corbridge and John Harriss, *Reinventing India: Liberalization, Hindu Nationalism and Popular Democracy* (Cambridge, UK: Polity Press, 2000).

[5] Atul Kohli, *The State and Poverty Reduction in India: the Politics of Reform* (Cambridge: Cambridge University Press, 1987); Robert Jenkins ed., *Regional Reflections: Comparing Politics Across India's States* (New Delhi: Oxford University Press, 2004); Aseema Sinha, *The Regional Roots of Developmental Politics in India: A Divided Leviathan* (Bloomington: Indian University Press, 2005).

To understand variation in secondary neoliberal reforms—many of which are the constitutional domains of state governments—one must adopt a subnational perspective. Studies of economic reform at an aggregate, country-wide level are of limited use in understanding federal or otherwise decentralized political systems.

Furthermore, many studies of market reform and privatization do not differentiate between the many types of reform.[6] In most countries that pursued statist policies in the post-war period, however, the state was a multi-faceted actor and an owner of a wide array of firms. Just as opening capital markets has very different distributional implications from removing trade barriers, privatizing a steel plant has very different implications from privatizing a water or electric utility. There is a need for a more fine-grained examination of the politics of economic liberalization, and studies that look at individual sectors rather than liberalization in the aggregate might begin to account for the varied paths and patterns of neoliberalism over the last thirty years.[7]

The next section of this chapter briefly describes the electricity industry to provide a global context in which to understand the Indian story. The subsequent section examines the broader literature on the determinants of the pace and direction of economic reform, situating my argument in this larger field of alternative theories. Following that, I flesh out the central assumptions, arguments, and actors that comprise my explanation of cross-state variation in energy sector reform in India. The final section briefly describes the chapters that follow.

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[6] Luigi Manzetti, "The Political Economy of Privatization through Divestiture in Lesser Developed Countries," *Comparative Politics* 25 (1993): 429-454.

[7] Raul Madrid, *Retiring the State: The Politics of Pension Privatization in Latin America and Beyond* (Stanford: Stanford University Press, 2003), 2. A similar logic drives Madrid's decision to compare pension reform across countries in Latin America.

The Electricity Industry

For most of the twentieth century, a near global consensus held that because electricity was a natural monopoly that required massive capital investments and had considerable implications for social and economic development, the sector would be best owned and managed by the state. This consensus began to unravel in the 1980s in the face of capital scarcity, the ascendancy of a broad critique of state involvement in economic activities, and technological innovation that made smaller generating plants economically feasible. Over the last two and half decades, countries around the world have revolutionized their electric power sectors, transforming the sector from one dominated by publicly-owned vertically integrated monopoly utilities to one in which public and private, integrated and independent companies share the field.

While some countries, like Chile and the UK, implemented market-reforms early and quickly, others, like Egypt and Mexico, have not yet begun the process. The leaders in the reform movement were the usual ones—within the industrialized cohort, the UK under Thatcher, and among developing nations, Chile under Pinochet. Chile's restructuring and privatization programs began in 1978. Over the course of a decade in Chile, the different parts of the electricity business were separated from each other, and all transmission functions and most of distribution and generation firms were privatized.

Restructuring and privatization in the UK followed in 1990, largely along the patterns established in Chile.[8]

In the literature on economic reform, the term "privatization" refers to a collection of diverse policies. These include the outright sale of public assets, the partial sale of assets (or government disinvestment), and the liberalization of a sector in which there had previously been a public sector monopoly. In the electricity sector, for example, the entry of private players in the generation side of the business through the construction of greenfield projects (new power plants), also gets described as privatization. The politics surrounding each of these very different kinds of activities, however, likewise can be very different. Another layer of distinctions can be made between the sales of different kinds of assets. Privatization of a power generating plant has very different implications for various stakeholders than sale of a distribution system, for example. To narrow the empirical focus, this thesis focuses on privatization of the distribution infrastructure, which occurred during the second phase of India's electricity sector reform program.

During the initial period of electricity reform in India, in the early to mid-1990s, the central government's emphasis was on inviting private companies to build new generating plants, called independent power producers (IPPs). Many Indian states successfully attracted such investment, augmenting the generating capacity available in their region in this way. During the second period of electricity reform, only two states in India took what some consider the most crucial step in electricity sector reform, that of privatizing distribution. Orissa privatized its electricity distribution system first, in 1999,

[8] R. W. Bacon, "Privatization and Reform in the Global Electricity Supply Industry," *Annual Review of Energy and the Environment* 20 (1995): 119-143.

and was followed by Delhi in 2002. No other states privatized distribution prior to the passage of the EA2003. Given the great deal of pressures on states in India to undertake electricity sector reform—and the ubiquity of utility privatization in other parts of the world including almost all of Latin America and much of Eastern Europe and Africa—this resistance on the part of state governments is puzzling. On the flipside, given that most states in India resisted these global trends, why did two follow the model of privatization?

Crisis, Ideology, and External Pressure as Alternative Explanations

The research design of comparing outcomes across states within a single country can examine or control for some variables that are prominent in the literature on the determinants of government policy, in particular electoral institutions and macroeconomic shock. Strategic case selection allows me to consider other plausible variables, such as economic crisis, ideology, and external pressures.

One body of research evaluating economic reform looks to the presence or absence, and degree of severity of the economic crisis that often initiates the movement towards neoliberal reform. Several well-known explanations of the Indian government's decision to undertake market reforms in 1991 hinge on the occurrence of a severe balance of payments crisis in early 1991.[9] As a response to this crisis, the Indian government

[9] Jagdish Bhagwati, *India in Transition: Freeing the Economy* (Oxford: Clarendon Press, 1993); Bimal Jalan, *India's Economic Crisis* (New Delhi: Oxford University Press, 1991); Bimal Jalan, "Balance of Payments." In *The Indian Economy: Problems and Prospects*, Ed. Bimal Jalan (New Delhi: Viking, 1992).

signed an agreement with the International Monetary Fund for a loan package, in exchange for which the government agreed to undertake certain structural reforms. There are two types of causal explanations that identify economic crisis as a crucial variable. The first leaves political calculations aside and assumes instead that leaders act based on economic rationality. This type of explanation for variation in reform—one that tends to ignore politics—can be found among international financial institutions' analyses of reform, for example in this World Bank document that assesses India's electricity reforms:

> Not surprisingly, states that have the weakest SEBs [State Electricity Boards] are the most willing to consider the radical reform of their power sectors. They can be logically expected to be among the first to conclude that an incremental approach of attempting to revitalize their SEBs is unlikely to bring about sustainable improvement, brought about by the realization of the magnitude of the power challenge and the inability of the public sector-SEB monolith structure to raise financing and deliver in the long term. States with better-performing SEBs feel less immnediate [sic] need to reform while several others are simply unable to take action.[10]

The second type of crisis-explanations does take politics into consideration. Among these, some scholars contend that political leaders are able to muster sufficient popular support for economic reform only in the wake of economic crises.[11] It is possible to construct a hypothesis about crisis and reform tailored to individual facets of the Indian economy. By examining a single sector within the Indian economy—the electricity

[10] World Bank, Energy and Infrastructure Operations Division. April 19, 1996. *Report No. 14298-IN, Staff Appraisal Report, India: Orissa Power Restructuring Project*. Washington D.C.: World Bank, (April) 1996), p. 8.

[11] John Waterbury, "The Heart of the Matter? Public Enterprise and the Adjustment Process." In *The Politics of Economic Adjustment: International Constraints, Distributive Conflicts, and the State*, ed. Stephan Haggard and Robert Kaufman (Princeton: Princeton University Press, 1992); Kurt Weyland, "The Political Fate of Market Reform in Latin America, Africa, and Eastern Europe" *International Studies Quarterly* 42 (1998): 645-674; John Williamson and Stephen Haggard, "The Political Conditions for Economic Reform." In *The Political Economy of Policy Reform*, ed. John Williamson (Washington DC: Institute for International Economics, 1994).

sector—we can examine whether financial or functional crises that are specific to this industry might account for policy variation among states. The data on utility performance indicates that such an explanation, at least as the primary cause of reform variation, is insufficient.

Table 1: SEB rates of return (%)

	Average rate of return from 1992-1993 to 1994-1995	Average rate of return from 1992-1993 to 2000-2001
Andhra Pradesh	**-7.7**	**-51.5**
Assam	-38.8	-34.5
Bihar	-17.2	-26.6
Delhi	**-26.2**	**-36.0**
Gujarat	-15.1	-35.3
Haryana	-28.4	-43.1
Himachal Pradesh	-5.6	-8.1
Jammu & Kashmir	-46.9	-55.4
Karnataka	-4.5	-26.5
Kerala	-13.6	-22.1
Madhya Pradesh	-12.6	-34.2
Maharashtra	**3.4**	**-1.0**
Meghalaya	-6.3	-13.2
Orissa	**-10.8**	**-16.7**
Punjab	-20.1	-29.6
Rajasthan	-16.1	-23.9
Tamil Nadu	-6.2	-9.3
Uttar Pradesh	-15.6	-20.8
West Bengal	-35.7	-53.4
Average of All SEBs	-12.7	-21.9

Source: Tabulated using data from Planning Commission, *Annual Report on the Working of the State Electricity Boards & Electricity Departments*, Government of India, June 2001.

Table 1 provides information about each state utility's rate of return on net fixed assets in service, after providing for depreciation and interest charges, from the time the central government announced the need to reform in 1991 through the end of the decade.[12] The figures represent the rates of return without taking into account the subsidies that most state electricity boards receive from the state governments. Two sets of average returns

[12] Hereafter, the state utilities will be referred to by their Indian acronym, SEB, which stands for State Electricity Board.

are given in the table: the first encompasses data from 1992 to 1995 and the second gives the average for all years in the series. The first break represents the time that the first state, Orissa, enacted its reform legislation and began the process of restructuring, although privatization of distribution did not take place until 1999. We can consider this to be the beginning of distribution privatization, although it was initially laid out as a policy alternative even earlier, during a conference jointly sponsored by the World Bank and the Ministry of Power in 1993.

Orissa represents an unlikely first state to have enacted a reform law, if financial compunction is taken to be the guiding logic of liberalization. As the column giving average figures from 1992 to 1995 suggests, several SEBs had far greater financial difficulties than Orissa's utility. Other than the SEBs of Jammu and Kashmir and Assam, two provinces that have been beset by violence for much of this period, the SEB of West Bengal exhibits the worst financial performance for these years, and indeed for all the years from the 1992-93 period until the 1998-99 period, when Andhra Pradesh's utility took this distinction. Orissa has a higher rate of return than either West Bengal or Delhi in the first years of the decade, and by 1994-95, also performs better than Andhra Pradesh. If economic crisis were a helpful predictor of the tendency to reform, we should expect West Bengal, and not Orissa, to lead this group of states in reform. In fact, we observe that Orissa has been the leader in power sector reforms, anticipating by several years the central government's injunction to create an electricity regularity commission, and unbundling its state electricity board in 1996, also before any other state. Lending

some support to this hypothesis, however, the state of Maharashtra, which has done the least in terms of restructuring, has the most profitable utility.

The performance of the SEBs can be evaluated along a number of dimensions. In addition to financial indicators, one could rate the electricity sectors of states according to their functioning. If a public utility's ability or lack of ability to provide services drives decisions to restructure or privatize it, then one would expect the worst performers to be privatized and dismantled most quickly. A number of variables can be used to evaluate the performance of electricity sectors. Among those that directly impact consumers are energy shortages resulting in number and duration of black- and brown-outs, and percentage of household electrification. Until recently, the central government used village electrification as a benchmark for penetration of electricity throughout the country. State governments therefore reported statistics about the number of villages electrified. By this accounting, a village could be considered electrified as long as at least one electricity point existed in the village, irrespective of how many inhabitants of the village could access it. The Ministry of Power is currently considering amending this definition.

Table 2: Village Electrification as of 1996 (% of total inhabited villages at time of 1991 Census)

State	
Andhra Pradesh	**99.92**
Assam	76.97
Bihar	70.81
Gujarat	99.25
Haryana	99.79
Himachal Pradesh	98.61
Jammu & Kashmir	96.53
Karnataka	97.85
Kerala	88.08
Madhya Pradesh	94.0
Maharashtra	**96.77**
Orissa	**68.61**
Punjab	99.31
Rajasthan	80.82
Tamil Nadu	100.0
Uttar Pradesh	76.81
West Bengal	77.04

Source: Calculated using data from 1991 Census and *Annual Report on the Working of State Electricity Boards and Electricity Departments, 1998-1999* (New Delhi: Planning Commission, April 1999).

Like the set of data on financial performance, these data on physical performance given in Table 2 are also inconclusive. Although the electricity utility in Orissa, which is the most aggressive reformer, has the lowest level of rural electrification, other states that initiated restructuring are Andhra Pradesh and Haryana, both of which electrified virtually all of the villages in their territories.

There is also a reason to believe that *more extensive* rural electrification would be a predictor of early privatization, particularly privatization of the distribution system. As the next chapter will discuss, one of the principle rationales for the creation of public utilities was to increase the pace of rural electrification, which was negligible at the time of independence. We might therefore expect that a state that has not electrified its rural areas to hold off on privatization, for the state still had much work to do. This was not the case, however, as Orissa was the first to privatize. Furthermore, the experience of post-privatization Orissa, where rural electrification efforts stalled, suggests that private

utilities are no more likely in the current period to undertake rural electrification than they were in the 1930s and 1940s.

Another set of explanations for economic reform builds on those described above to propose that successful liberalization following a crisis hinges on the presence of a team of reformers with the necessary political clout and ideological proclivity to devise and implement economic plans.[13] In the Indian context, while economic crisis is the most common explanation for the timing of reform in 1991, the pace and resilience of reform are often attributed to the ascendance in New Delhi of a technocratic elite with a neoliberal disposition. A previous economic crisis in 1966 had also resulted in tentative steps toward market reform. In that instance, however, once fiscal and monetary stability was re-established, the political and policy-making elite quickly retreated to traditional Indian state capitalism. The reforms of the 1990s stand in contrast to this earlier episode. Some scholars suggest that the critical difference between the 60s and 90s is that although both were periods of economic crisis, by 1991 a group of economists and policy-makers, many of them western-trained, had come to play an influential role in the prime minister's office.[14] The now near-consensus explanation for the thrust towards market reforms in 1991 identifies both economic crisis and the prominence of liberal technocratic elite as critical factors.[15]

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[13] John Waterbury, *Exposed to Innumerable Delusions: Public Enterprise and State Power in Egypt, India, Mexico, and Turkey* (Cambridge: Cambridge University Press, 1993).
[14] Rahul Mukherji, "A Path to Trade and Investment Liberalization." Ph.D. diss., Columbia University, 1999.
[15] Ronald Herring and N. Chandra Mohan. "Economic Crisis, Momentary Autonomy and Policy Reform: Liberalisation in India 1991-1995," in *The Post-Colonial States of South Asia*, ed. Amita Shashtri and A. Jeyaratnam Wilson (New York: Palgrave, 2001); Devesh Kapur, "Ideas and Economic Reforms in India: The Role of International Migration and the Indian Diaspora." *India Review* 3 (2004): 364-384.

One could infer from this literature an ideational account of reform as an explanation for inter-state variation in liberalization as well. By this logic, we would expect state governments whose leaders present themselves as the most ideologically market-oriented, to reform their power sectors most quickly, and most closely along neoliberal prescriptions. We might evaluate the ideological position of state governments with respect to economic liberalization along a number of axes. One possibility is to examine the flows of foreign direct investment to the states. While these are in part determined by factors such as existing levels of development, infrastructure provision, and the presence of suitably skilled labor forces, the literature on India during the period of reforms suggests that state executives, in particular chief ministers have been proactive in courting investment and creating hospitable investment climates in their states. What might be more solidly in the hands of state executives is disinvestment of state-level public enterprises, although the success of privatization policies is still impacted by existing conditions.

Again, the empirical record suggests that an ideational account alone cannot explain the observed variation in power reforms. For example, the governments of both Maharashtra and Andhra Pradesh have been very aggressive in terms of courting foreign direct investments and cultivating export-oriented industries. Indeed, the man who was chief minister of Andhra Pradesh for much of the period under study, Chandrababu Naidu, was hailed by international financial institutions and press as the "CEO" chief and the "modernising chief minister."[16] Despite these monikers, and despite Naidu's zeal in

[16] "The state that would reform India," *The Economist,* September 2, 2000.

implementing other kinds of pro-market reforms, Naidu was not as successful in tackling the power sector.

On the other side of the ideological scale, the communist government of West Bengal, which has been rhetorically opposed to the policies and practices that make up neoliberal reform, has been quietly introducing measures that can only be read as advancing that very same agenda.

One pair of scholars, in a study of the progress of market reform at the sub-national level, organize the fifteen largest Indian states into three categories—reform-oriented states, intermediate reformers, and lagging reformers.[17] According to their rubric, Orissa is classed as an intermediate reformer while Maharashtra and Andhra Pradesh are coded as reform-minded. However, in the area of power sector reforms, this rank-ordering would have to be reversed.

Theories of policy convergence, whether emphasizing pressures of donor conditionality, capital scarcity, or technological change, would predict that as in many other countries of the world, the electricity industry in India too would follow established patterns of restructuring and privatization. In Latin America, for example, after Chile, thirteen other countries privatized and restructured their electricity sectors.[18] India, however, has proven to be resistant to a change that is commonplace in many other parts of the world, including most of Asia and parts of Africa. One reason for this is the mismatch between the decentralization of decision-making, particularly in certain sectors

[17] Nirupam Bajpai and Jeffrey D. Sachs, "The Progress of Policy Reform and Variations in Performance at the Sub-National Level in India." Harvard Institute for International Development, Development Discussion Paper No. 730, 1999.
[18] Victorio M. Murillo, "Policymaking under Globalization Pressures: Reforming Public Utilities in Latin America." Paper given at University of Pennsylvania's Comparative Politics Workshop, April 15 2005.

including power, in India's federal system and the centralized ways that multi- and bilateral organizations operate in India, and in other recipient countries. Although many of the individual states of India are larger in terms of population than most of the world's countries, most foreign aid organizations operate primarily in the capital city of New Delhi. During my fieldwork in India, I came to appreciate the extent to which Delhi as India's capital is inundated with conferences sponsored by the World Bank, the Asian Development Bank, and British and Canadian bilateral agencies that all advanced the agenda of electricity privatization. Indeed, international influences are important in explaining the kinds of electricity sector policies that the Indian central government pursued from 1991 onwards. India's provincial capitals, however, were largely free from this vehicle of policy diffusion.

Tracing the process of reform in these case studies also suggests that external pressures in the form of donor conditionality are not always a part of the set of factors that lead to privatization. Many explanations for privatization in Orissa focused on World Bank pressure as the primary cause of the government's policy choice. My research indicates instead that there were complex domestic political incentives to privatize, and that the World Bank's involvement allowed state leaders to finance preferences that they held independently. More persuasive, perhaps, is the juxtaposition of Orissa and Delhi. In the latter, privatization was undertaken without external pressure or conditional financing from multilateral lenders.

State-Society Relations

As the preceding review suggests, economic crisis, ideology, and external pressure theses cannot supply the critical explanatory power to explain variation in electricity privatization across India's states. Another substantial portion of economic reform literature evaluates regime type as an explanation for cross-national variation in economic reform.[19] Some scholars assert that authoritarian regimes are more capable than democracies of initiating sweeping economic changes because they are insulated from the vested societal interests that would mount the biggest opposition. Others suggest, on the contrary, that reform-minded democratic leaders are just as able to make sweeping, and ultimately lasting, economic changes; because they benefit from the spirit of public debate and compromise that pervades democracies, they are able to forge coalitions in support of new policies. Taken together, the empirical record for either democratic or authoritarian states as the more robust reformers has been inconclusive. In recent years, scholars have added further nuance to the relationship between regime type

[19] Among the work that examines the relationship between economic reform and democracy are many of the articles from Larry Diamond and Marc F. Plattner eds., *Economic Reform and Democracy* (Baltimore: Johns Hopkins Press, 1995); and the monograph by Stephan Haggard and Robert R. Kaufman, *The Politics of Economic Adjustment: International Constraints, Distributive Conflicts, and the State* (Princeton: Princeton University Press, 1992). Other literature looks more generally at the relationship between regime type and economic development, also inconclusively. The large-n, cross-national studies include Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990* (New York: Cambridge University Press, 2000); and Carles Boix and Susan C. Stokes, "Endogenous Democratization," *World Politics* Vol. 5, No. 4 (July 2003):517-549.

and reform capacity, often by focusing on institutional variables that mediate policy outcomes.[20]

The simplest register of a regime-type explanation—separating states into democratic and authoritarian ones—is unpersuasive as an explanatory variable for differing reform success within India. Although India's democratic system hosts parties from a spectrum of political ideologies, from Marxist to Hindu fundamentalist, they all operate within the same procedural norms of democratic governance. Examining divergent reform outcomes within a single country requires another set of analytic tools and causal explanations.

Scholars of Indian politics use the analytic construct of regime typology in a distinct way, to refer not to the structure of the state classified along a continuum from democratic to authoritarian, but to the ideological and class-based differences that are found among different political parties and the social forces that underlie them. State-level regimes have been typologized in this way in literature assessing the relationship between regime type and poverty reduction, which has been pursued more aggressively in some Indian states than others. One body of scholarship defines regime type as a manner of democratic functioning that is a product of the balance of class power and the degree to which historically subordinated groups are incorporated into the regime.[21] In these analyses, balances of class power are partly historical productions, which helps to

[20] Frye, Timothy and Edward Mansfield, "Fragmenting Protection: The Political Economy of Trade Policy in the Post-Communist World." *British Journal of Political Science* (October 2003) 33: 635-657.
[21] Atul Kohli, *The State and Poverty Reduction in India: the Politics of Reform* (Cambridge: Cambridge University Press, 1987); John Harriss, "How much difference does politics make? Regime differences across Indian states and rural poverty reduction" *Working Papers*, LSE Development Studies Institute, No. 00-01 (February 2000).

explain much regional variation. The evidence from India's states leads to the conclusion that regime type, which is a function of balance of caste / class power and political organization, matters in determining the extent and nature of states' attempts at poverty reduction. Those states in which lower classes / lower castes were politically mobilized pursued poverty reduction policies more consistently than those states that continued to be dominated by upper classes and upper castes.[22] The theoretical basis for examining the relationship between regime type and pro-poor policies posits that the greater the organization and representation of lower classes and suppressed castes, the greater will be the likelihood that a state will pursue policies that redistribute wealth and opportunities downward.

Is there sufficient evidence between of a link between strategies of economic liberalization and regime type to suggest a similar line of argument? If one takes the entire basket of economic liberalization measures, including exchange rate stabilization and capital account convertibility, as well as the steady withdrawal of the state from certain productive activities, the link between regime type and pursuit of economic reform is not immediately clear. Some of these policies may cause short-term pains for the poor while others that may not have a disproportionate impact on any class or sector, are expected to enhance social welfare in the long run. In India, as in other countries that pursued electricity privatization like the UK, the costs for residential consumers were expected to rise in the short term before beginning a secular decline that would ultimately lower prices for all.

[22] Harriss, "How much differences does politics make?" 211-212.

On the face of it, the empirical record from the first decade of the economic reform period suggests that there is no consistent relationship between the political organization of regimes, particularly their "class character," and the likelihood of undertaking reforms. As many others have pointed out, the reforms at the national level were initiated by a centrist Congress government in 1991, continued by a left-of-center coalition government from 1996 to 1998, and accelerated during the rule of the rightist BJP and its allies from 1998 to 2004.

There is a similar indeterminacy in the relationship between partisanship and economic policy at the state-level. State governments adopted a confusing mix of policies during the 1990s, some of which advance liberalization while others signal opposition to it. West Bengal, for example, has been governed by the Communist Party of India (Marxist) for four decades, since 1977. In 2002, presumably to compete with its neighbors for investments from information technology firms, the government classified the technology sectors as part of "essential services," thus bringing them under the purview of protections against strikes afforded by the Essential Services and Maintenance Act. Such a policy measure, which is deeply antagonistic to labor interests, suggests that even an ideologically guided party like CPI(M) is not immune to the pressures towards economic liberalization. In addition, West Bengal has emerged as a popular destination for many kinds of private investment. In other sectors of the economy, however, the CPI(M) has resisted liberalization policies, making an appraisal of CPI(M)'s overall stance on economic issues difficult.

Unbundling the basket of liberalization policies and focusing on just one subset—privatization and restructuring of the electricity sector—has the benefit of clarifying this line of questioning. The question can be re-framed to ask, in the domain of electricity policy, does regime type predict the timing or extent of liberalization? The empirical research would then question whether there is a systematic relationship between regime type and the policies pursued by different state governments.

As in Harriss (2000), I take regime type to refer to the class and caste composition of a state, expressed through formal political organizations, like parties, but also evident in the strength of actors in civil society. Focusing on a single sector rather than the full class of liberalization policies might help us to untangle the relationship between regime type and economic policy.

Electricity restructuring is one piece of India's "second-generation reforms," a term applied to structural changes that were largely excluded from the first decade of liberalization and that tend to delve "deeper into sectoral specificities."[23] Among these are agricultural, labor market, and electricity sector reforms. Varshney posits that the difference between the first, easily enacted basket of policies and the second, more difficult one as rooted in the difference between elite and mass politics.[24] The latter tend to arouse more popular passions and hence are often delayed. Because these reforms are perceived to have broad distributional implications, they are more politically contested, and this accounts in large measure for their delay. Given their redistributive nature, one

[23] Jenkins, *Democratic Politics and Economic Reform in India*, p. 335.
[24] Ashutosh Varshney, "Mass Politics or Elite Politics? India's Economic Reforms in Comparative Perspective." In *India in the era of Economic Reforms*, eds. Jeffrey D. Sachs, Ashutosh Varshney, and Nirupam Bajpai (New Delhi: Oxford University Press, 1999).

would suspect that electricity sector reforms vary according to the character of state governments and the nature of coalitions at the state level.

Distributional Conflict and Uneven Urban Bias

The literature on distributional conflict and development is extensive. The urban bias thesis represents one of the most influential formulations about distributional conflict in the context of late developing societies.[25] The thesis posits that in the context of late development, states will extract surplus from the countryside to fuel development. By contrast, in industrialized states, where the rural sector has shrunk to a shadow of its former size, the few remaining rural producers are the beneficiaries of extensive state subsidies.

Since the theory's earliest formulation, others have provided evidence that challenges and nuances its findings.[26] In the Indian context, for example, Varshney contends that democracy has the potential to subvert the tendency toward urban bias.[27] As the numerically superior rural sectors are empowered by democratic institutions, their power through elected representatives will increase and the terms of policy will shift in their favor. In India, he suggests, over the late 1970s and throughout the 1980s, farmers had come to sway public policy in their favor. He looks to a variety of national

[25] The urban bias thesis was first formulated by Michael Lipton, *Why Poor People Stay Poor: Urban Bias in World Development* (London: Temple Smith, 1977); and extended by Robert Bates, *Markets and States in Tropical Africa* (Berkeley, CA: University of California Press, 1981).
[26] A special issue of the *Journal of Development Studies* titled *Beyond Urban Bias* and edited by Ashutosh Varshney, was devoted to scholarship that challenged the urban bias thesis with fresh evidence, and included responses by Lipton and Bates.
[27] Ashutosh Varshney, *Democracy, Development, and the Countryside* (Cambridge: Cambridge University Press, 1995).

government departments, like the Finance and Planning Commissions, and the federal government's policies in terms of food prices and subsidies for fertilizer and farm procurement to give evidence of rural power. Despite these interventions in the debate about urban bias, many scholars continue to operate with the assumption that the state continues to be partial to urban classes. And many empirical findings from late developing countries continue to substantiate this assumption.[28]

As the countryside's power grew throughout the late 1970s and 1980s, as Varshney documents, agricultural producers secured for themselves a triad of important input subsidies (in addition to the subsidies for food prices, extension services, hybrid seeds, and credit). These subsidies–for irrigation, power, and fertilizers—were requisites for Green Revolution technologies. While there was no direct contest between rural consumers and other kinds of consumers for either surface irrigation or fertilizers (although there were opportunity costs of government funding for these), the subsidy for power had clear distributional implications. In a scenario of electricity scarcity, the increasing use of subsidized power by farmers meant that other consumers either would pay ever-higher costs, or that their use would be curtailed by administrative rationing or via discriminatory pricing mechanisms. In practice, since the public utilities used a system of cross-subsidies to recoup their losses in providing cheap electricity to farmers, industrial and commercial consumers were literally paying for the power that farmers used. Whereas via these funding mechanisms rural electrification programs were vibrant

[28] For example, see Stephen Wegren, "Democratization and Urban Bias in Postcommunist Russia" *Comparative Politics* vol. 34, Iss. 4 (July 2002): 457-477; Sumon Majumdar, Anandi Mani, and Sharun Mukand, "Politics, Information, and the Countryside" *Journal of Development Economics* Vol. 75, Iss. 1 (October 2004): 137-165.

and aggressive in some states, implicating electricity deeper into the process of agricultural production, in other parts of the country, rural electrification was never so deeply subsidized and never became a developmental priority. Examining these differences in electricity sector can provide a way to understand how different state governments allocated resources among different constituencies.

Based on an analysis of this uneven pattern of electricity subsidy, my own contribution to the literature on urban bias is two-fold. First, I argue that the rural-urban dyad is underspecified, as others have also suggested.[29] Secondly, although Varshney is correct to highlight the strides that India's farmers made once they captured a measure of political power, the countryside's clout was very uneven across India. Examples of the beneficiaries include wheat and rice farmers in Punjab, Haryana, and Andhra Pradesh, and sugar cane farmers in western Maharashtra. However, large swaths of the countryside never reaped the benefits of the new deal for Indian agriculture.

Whereas the central government used marketing boards and price controls to favor certain kinds of crops and therefore certain groups of farmers, state governments used input subsidies to selectively favor farmers. In the case of electricity, it was only those farmers who could afford expensive equipment to sink tubewells for irrigation, and only farmers in regions that had already benefited from state expenditures for rural electrification that profited from these policies. So the new "rural bias" that Varshney points to was limited both by class differentials within particular regions of the

[29] An early critique of Lipton's focus on rural-urban conflict to the exclusion of all other social conflicts is found in Terrence Byres, "Of Neo-populist dreams: Daedalus in the Third World and the myth of urban bias," *Journal of Peasant Studies*, Vol. 6 (1979): 210-244.

countryside, and also by differences in the level and nature of infrastructure development across regions. The rural-urban dyad is insufficient in terms of capturing these deep-seated, and perhaps no less politically significant intra-rural inequalities. As the empirical chapters that follow show, particularly the chapter about Maharashtra, a more salient cleavage to understand politics in that state may be the one between elites that move between rural and urban spaces, and the larger majority of rural actors who have not profited from rural development programs.

In existing scholarship that emphasizes the coalitional underpinnings of decisions to divest in the electricity sector specifically, most scholars consider the principle players to be labor, politicians, and bureaucratic managers.[30] (Murillo 2000). Policy-making in the electricity sector does engage these actors, but it also impacts the fortunes of electricity consumers. Consumers are a much larger and more heterogeneous mix of agricultural, industrial, and residential users, each of which has a distinct set of preferences with respect to electricity policy that are conditioned by the prevailing prices and quality of electricity, and expectations about privatized utilities' performance. Understanding cross-state differentials in electricity sector reform in a democratic country like India must therefore consider societal actors' preferences and strengths, which vary regionally, in influencing policy decisions.

Thanks to a tariff system that groups consumers in discrete categories according to the uses for which they require electricity, and the near-ubiquitous need for electricity across society, the electric power sector is one in which every sector of society has

[30] Victoria M. Murillo, "From Populism to Neoliberalism: Labor Unions and Market Reforms in Latin America." *World Politics* (2000) 52: 135-174.

interests that can be delineated more or less clearly, and in which outcomes are often expected to be zero sum in the near term. This is the result of the capital intensity and long gestation of investment projects in the sector. Building a coal-fired generation plant takes anywhere from five to seven years, and laying transmission and distribution infrastructure is both costly and time-consuming. In the situation of chronic undersupply in which most Indian states find themselves, the interests of classes of users can be understood, in the short-term at least, as in opposition to each other.

The next section will specify different societal actors and define their interests in the electricity sector, and identify the mechanisms by which these interests impact the government, and in turn state policy. The lines that delineate these groups and separate them from each other are not arbitrary. Some, like organized labor in the public utilities, are obvious groupings. Others, like industrial, agricultural, and residential users are categories of consumers used by the utilities themselves in determining tariffs. Variation among states in policy is a reflection of differences in the biases of state governments with respect to specific constituencies. The analysis finds that key variables in explaining variation in privatization outcomes include the political influence of agricultural elites relative to industrial consumers, and the strength of urban middle class consumers. Labor unions are found to have been ineffective at stalling privatization in India's states in the 1990s.

Agriculture

The private electricity generators and distributors of British India had concentrated their activities in cities and larger towns because of the lack of profits in serving rural consumers. The newly independent government elected to nationalize the electricity industry, motivated in great part because of this geographically skewed service. The evidence from the annual reports of the SEBs shows that there was no system of subsidy for agriculture in the early decades of the public utility system, from the early 1950s when the SEBs were first established to the late 1960s. The tariffs for agriculturalists was far higher than those of industrial consumers, reflecting the higher costs of providing service to such scattered customers compared to the densely concentrated industrial and urban consumers. The allocation of electrification resources and the gradual lowering of agricultural tariffs began to tilt in favor of agriculture only in the late 1960s, coinciding with the beginning of India's Green Revolution and the rise to power of farmers groups, particularly in certain states in India.

Relative size of the rural population is a poor indicator of their influence in Indian politics, where states with vast rural populations nevertheless pursued development policies antithetical to rural interests. Rather than size, it is the organization of rural interests either in pressure groups or working through state structures that determined the extent to which they successfully mobilized resources for agricultural production and rural development.

Table 3: Rural-Urban distribution of population

State	% rural
Andhra Pradesh	**72.92**
Assam	87.28
Bihar	89.53
Gujarat	62.65
Haryana	71.00
Himachal Pradesh	90.21
Jammu & Kashmir	75.12
Karnataka	66.02
Kerala	74.03
Madhya Pradesh	73.33
Maharashtra	**57.60**
Orissa	**85.03**
Punjab	66.05
Rajasthan	76.62
Tamil Nadu	56.14
Uttar Pradesh	79.22
West Bengal	71.97

Source: Census of India, 2001

States in which rural interests, particularly those of wealthy farmers, are well-represented in the government apparatus have opposed attempts to privatize and restructure the public electricity monopoly, with the goal of maintaining a beneficial status quo. Maharashtra, where no restructuring and privatization have taken place, represents the most extreme case of the power of rural interests ability to block reform, while Andhra Pradesh, where rural interests are balanced by those of industry and urban consumers, has partially restructured but not privatized. The only two examples of privatization have occurred where these interests are either not present (Delhi) or have been historically marginal to the interests and policies of the state (Orissa). To explain why the strength of rural interests differs across states, this thesis will draw on literature about regional dominance and power in India.[31]

[31] Among the most prominent examples in this literature are the essays in Francine Frankel and M. S. A. Rao. Eds. *Dominance and State Power in Modern India, Vols. I and II* (Delhi; New York: Oxford University Press, 1989). There are region and state-specific literatures as well.

There are multiple mechanisms by which rural power is manifest in state government policy. These include the most visible and vocal forms of mass protest like rallies and marches. The strength of farmers' interests can be read in the manifestos of political parties, where parties made strident justifications for continuing input subsidies for farmers. It is also the case, most clearly depicted in Maharashtra, that the rural elite has successfully built a vital presence working within political parties and government agencies like rural cooperatives. Their power in these institutions ensures that they are able to tip the playing field in their favor when it comes to certain kinds of policies.

Industry

The cost, quality, and availability of electricity are critical to energy-intensive businesses. Industrial consumers of electricity in India pay more than the average cost of electricity production. Tariffs became skewed due to a system of cross-subsidies that evolved over time, particularly as Green Revolution technologies in the late 1960s and 1970s required cheap inputs (water, fertilizer, seed) for agricultural uses, and as farmers demanded subsidized rates for these inputs. Public utilities used high tariffs for industrial consumers to offset the losses that resulted from under-market rates for agricultural and domestic consumers.

Table 4: Electricity Rates for Industrial Consumers, selected OECD and developing countries (USD/kilowatthour)

Country	1994	1995	1996	1997	1998	1999	2000
China	0.025	0.028	0.032	n.a.	n.a.	n.a.	n.a.
India	**.070**	**0.068**	**0.073**	**0.089**	**0.082**	**0.081**	**0.080**
Indonesia	0.064	0.064	0.062	0.051	0.020	0.027	n.a.
Mexico	0.042	0.027	0.033	0.041	0.038	0.042	0.051
Poland	0.035	0.040	0.040	0.036	0.037	0.037	0.037
Russia	0.022	0.031	0.044	0.047	0.028	0.012	0.011
Thailand	0.066	0.066	0.071	0.059	0.052	0.054	0.057
Turkey	0.077	0.076	0.086	0.077	0.075	0.079	0.080
UK	0.067	0.068	0.065	0.065	0.065	0.064	0.055
US	0.048	0.047	0.046	0.045	0.045	0.044	0.046

Source: United States Energy Information Agency, Annual Report various years.
n.a.= not available

Table 4 shows the rates for industrial consumers in a selection of developing and industrialized countries. Of the countries listed in this table, Turkey and India consistently had the highest industrial tariffs throughout the 1990s. In India, industrial tariffs hit their peak in 1997 before declining somewhat afterward, although they remain the higher than any other country's and identical to Turkey's. The relative cost of electricity for industrial production is often cited by industrialists in support of their arguments for privatization. The arguments are even more impassioned since India opened its economy to cross-border trade, putting Indian firms into more direct competition with their foreign counterparts.

In addition, the perennial shortage of electricity, partly due to the fact that economic growth and therefore demand for electricity outstripped the growth of generating capacity, caused forced reductions in electricity for all classes of consumers, industry in particular. Capital scarcity—particularly access to foreign exchange—and the long gestation period of building new capacity limited the expansion of supplies. The government's short-term solution was to selectively restrict consumption.

Some industries, particularly larger ones, responded to the rising costs, deteriorating quality, and erratic supply of energy by leaving the grid to generate their own electricity, referred to as captive power generation. Until legislative changes in the 1990s, industries were prevented from selling their excess captive power back to the public grid. Once this was allowed, however, captive power production had the potential to become a much more financially viable alternative for industry, one however, that threatened the financial well-being of public utilities that relied on industrial consumers to make up for losses from other categories of consumers. Even after the Electricity Act 2003, state governments continue to dictate the terms under which captive power can be sold, including the tariff that the utility will pay and the charges that the SEB can levee for transporting (also called wheeling) the energy using the state's transmission and distribution system. This discretionary power allows SEBs to curtail the spread of captive power. Openness to sales from captive power plants differs from state to state.

Several aspects of electricity sector reform that are in the hands of state governments impact industrial consumers. Among these are the creation of autonomous regulatory commissions with the mandate to end cross-subsides, privatization of public distribution systems, the introduction of open access, and favorable terms for the sale of captive power.

As mentioned above, the spread of Green Revolution technologies and their concomitant effect on the political strength of rural India was very uneven across India. In those parts of India where rural power was not projected strongly onto the political stage, like Orissa, the state's decision to privatize utilities was a means of satisfying its

industrial constituencies. As the case study of Orissa demonstrates, the state had long been in the hands of an industrializing elite, and many in the political class came from industrial backgrounds themselves. Once India's liberalization program began in earnest in 1991, the state was finally able to take steps to create an environment hospitable to further industrial development.

Residential consumers, urban middle classes

Residential consumers of electricity, like agricultural users, have benefited from subsidized electricity tariffs. In a few states, the rates for residential users are on part with those of farmers, while in others the rates are higher but still well below the average cost of supply.

Table 5: Consumer Category-wise Average Tariff, 1997-1998 (Paise/kilowatthour)

State	Domestic	Commercial	Agricultural	Industrial
Andhra Pradesh	**165.58**	**369.04**	**16.12**	**340.00**
Assam	117.87	320.38	476.70	192.56
Bihar	110.39	225.43	12.15	275.99
Delhi	**243.40**	**465.78**	**372.36**	**492.12**
Gujarat	164.00	330.00	18.00	338.70
Haryana	203.95	337.82	61.08	372.20
Himachal Pradesh	60.00	220.00	50.00	198.00
Jammu & Kashmir	31.50	57.90	12.50	46.00
Karnataka	166.00	489.12	11.55	415.05
Kerala	77.99	279.88	54.63	163.20
Madhya Pradesh	74.48	362.37	5.30	377.48
Maharashtra	**151.80**	**430.33**	**21.46**	**354.44**
Orissa	**132.30**	**330.78**	**84.95**	**322.27**
Punjab	148.50	276.33	0.00	241.75
Rajasthan	125.71	296.17	34.58	323.60
Tamil Nadu	157.26	331.05	1.60	296.16
Uttar Pradesh	104.95	303.61	49.65	383.45
West Bengal	106.80	214.00	23.27	280.52
Average of All SEBs	137.23	295.42	20.22	314.63

Source: *Annual Report on the Working of State Electricity Boards and Electricity Departments, 1998-1999* (New Delhi: Planning Commission, April 1999).

For many consumers, particularly the urban and rural poor, electricity continues to represent a significant chunk of total income expenditures, so increased tariffs would depress consumption levels. However, the case of Delhi suggest that affluent urban middle and upper classes in India are more willing to trade higher prices for higher quality and greater supplies of electricity. This is partly based on the fact that these groups already own back-up, diesel-based generating sets that are costlier and more polluting than electricity from the public grid. Given an option, they would prefer to use grid electricity at higher rates. Where these groups are influential in policy-making, privatization is more likely, as in Delhi.

Labor Unions

Many studies of economic reform have found that unions can play a significant role in stalling privatization. However, to be successful union protest relies on broader public support, which in the case of the electricity sector is often absent. Quite the reverse in India, where anger over the poor quality and insufficient supply of electricity frequently has put utility employees in personal danger, as irate consumers express their dissatisfaction with bricks and stones thrown at utility offices.

In both cases of utility privatization (Orissa and Delhi), although the labor unions opposed the policy initially, their compliance was ensured through tripartite agreements signed by the government, the unions, and the new private owners. These agreements secured the wages and benefits of current employees. As these two case studies illustrate,

at least with respect to electricity privatization in India, union opposition is not a deal-breaker.

Organization of the thesis

The next chapter of the thesis traces developments in the electricity industry at an all-India level, to provide the institutional and historical context in which individual state governments make sectoral policy. Chapters 3-6 of the thesis are organized by case study. Chapter 3, the first of four case studies, looks at Orissa, an overwhelmingly rural state on India's east coast. There, the absence of organized and influential rural lobbies pressuring the government to resist privatization allowed the state government, dominated by a regional upper-caste elite, to be the first in the country to dismantle public electricity institutions and privatize the distribution network. This was a necessary first step for the state to pursue a development strategy of natural resource extraction and industrial production.

Chapter 4 examines the case of Delhi to show how affluent urban consumers drove privatization, and the strength of large industry in the sector shaped its contours. For Delhi's political leaders, the ability to court industrial capital and avoid middle-class dissatisfaction with sub-par public electricity service made privatization an attractive option.

In Chapter 5, I examine the case of Maharashtra, where the rural elite's political potency is magnified beyond their numerical strength thanks to the mediating social

institutions of caste and kinship. In addition, cooperative institutions in the state funnel power into the hands of a small but powerful cadre of rural leaders. Also of significance in Maharashtra, the largest concentration of middle class consumers of electricity in the capital city of Mumbai was effectively neutralized as a pro-reform lobby because Mumbai was one of a handful of privately-served zones in the country which eluded nationalization following Independence.

In the final case study, about Andhra Pradesh, the pro-reform elite was able to go as far as restructuring the electricity industry, but time and again the government, beholden to an organized rural constituency, stopped short of its stated goals of privatizing and eliminating electricity subsidies. Unable to eliminate cross-subsidies in tariffs by the standard means of privatization and autonomous regulation, the state has pursued other means of satisfying its industrial and high-technology consumers of electricity, namely a more liberal captive power policy that allows these consumers to leave the grid and establish their own supplies with some government subsidy.

In a concluding section, I summarize the argument that preceded and speculate on how an emerging set of politics involving outward-looking, commercially-oriented farmers may push electricity policy in the future.

Chapter 2: Historical Overview

Introduction

The empirical puzzle at the heart of the dissertation focuses on decisions made at the subnational, or state, level within Indian politics. Since the electricity sector falls on the concurrent list of the Indian constitution, both state and center can affect the overall institutional shape of the sector. The center's role has been to craft broad, enabling structures, but the task of implementing these policies was always intended to be the purview of state elites. Since the central government itself entered the business of generating electricity and selling it to state-run enterprises in the 1970s, the center's role has become more complex.

This chapter details central government decisions that affected the shape of the Indian electric industry. The first—the decision to nationalize the sector—was taken as the Indian constitution was being drafted in 1948. The second—to open the sector to private capital—was taken in 1991 as the Indian government was confronted with capital scarcity, increasing unwillingness on the part of IFIs to lend to public utilities, and a projected surge in electricity demand. The central government went through a succession of policy decisions after 1991, each of which had consequences for state governments and bureaucracies. Altogether, this macro perspective is intended to illuminate the structures laid down by the central government, within which state legislators, policymakers, and societal actors have operated.

The chapter begins with a statistical snapshot of the electricity sector and its post-Independence expansion. The succeeding section explores the creation of the state-run sector, especially its principal institutions – the SEBs – through an examination of their legislative history. The last section turns to the 1990s reforms, broken up into three policy periods: independent power producers (IPPs); distribution reforms and regulatory mechanisms; and legislative reform auguring broad structural change in the sector.

Statistical profile of the Indian Electricity Sector

India's electricity sector has grown substantially since Independence. Installed capacity in 1950 was 1,713 MW; by 2002 it had grown to 104,918 MW. However, per capita annual electricity consumption, which increased from 15.6 kWh in 1950 to 365 kWh in 2001, remains low. For example, the figures for China and Brazil in 2001 were 893 kWh and 1845 kWh respectively.[32]

There is also urban-rural unevenness in the spread of electricity access. According to the 2001 Census of India, 56.5% of rural households and 12.4% of urban households lack access to electricity.[33] Although the number of electrified villages grew from 3,061 (0.54%) in 1951 to 587,258 (86%) by March 2001, what is meant by an "electrified village" is limited.[34] Any village with a single connection to the grid

[32] Per capita consumption for India, Brazil, and China from World Bank, *World Development Indicators Database, 2003*. Indian consumption in 1950 is given in Central Electricity Authority (CEA), "Power Development in the Country: An Overview."
[33] Census of India, 2001, "Table S00-019: Distribution of Households by source and location of drinking water and availability of electricity."
[34] CEA,"Power Development in the Country," and Planning Commission, *Annual Report 2001-2002*, 40.

currently counts as being electrified.[35] Patterns of electrification are also geographically uneven; nine states claim to have achieved 100% village electrification, while the bulk of unelectrified villages are located in the populous northern and central states. There is a similar unevenness in electrification across districts within many states.

The electricity sector has evolved a complex institutional structure. The Indian Constitution lists electricity as a concurrent subject, meaning that central and state governments share jurisdiction in the sector. While the central government is principally responsible for laws governing the sector, state governments are the main implementers. Consequently, electricity institutions exist at both state and central levels. Some were created by the Electricity (Supply) Act of 1948, such as the SEBs and the Central Electricity Authority (CEA), while others were added in later years. The SEBs are the main actors in the sector, accounting for the majority of generation and virtually all transmission and distribution. The CEA creates national-level supply and demand forecasts, and evaluates proposed power projects. The central government created the National Thermal Power Corporation (NTPC) and National Hydro Power Corporation (NHPC) in 1975 to provide additional generation, and became involved in transmission by forming Powergrid India in 1989. The Ministries of Power at both state and center levels formulate policy, and as the history below illustrates, the involvement of state governments has increased greatly over the years. The other significant actors in the electricity industry are the regulatory commissions at the central and state levels, which were formed starting in the late-1990s. The mandate of the state commissions is

[35] The Ministry of Power is seeking to revise the definition to capture measures of actual electricity use.

broadening with time, but their most important duty is setting tariffs for both public utilities and private companies.

Tables 6 and 7 provide more information about installed capacity and generation in terms of ownership and energy source. In addition to the main ownership types listed here, electricity departments, mostly in the smaller Northeastern states, contribute small amounts of capacity and generation, mostly from hydroelectricity.

Table 6: Installed Capacity (MW), March 2002

Ownership Type	Hydro	Fossil	Wind	Nuclear	Total
State Electricity Boards (SEBs)	22,636 (86%)	39,546 (53%)	62 (4%)	--	62,244
Central public sector enterprises	3,049 (12%)	25,837 (35%)	--	2,720	31,606
Private sector	576 (2%)	9,046 (12%)	1,445 (96%)	--	11,067
Total	26,261	74,429	1,507	2,720	104,917
% of installed capacity by energy source	25%	71%	1%	3%	100%

Source: *Annual Report (2001-2003) on the Working of the State Electricity Boards and Electricity Departments*, Indian Planning Commission. Figures in parentheses represent the contribution of each ownership type to capacity, by energy source.

Table 7: Gross Generation (million kWh), 2000-2001

Ownership Type	Hydro	Fossil	Nuclear	Total
SEBs	52,669 (82%)	212,230 (52%)	--	264,899 (54%)
Central PSUs	9,952 (16%)	159,617 (39%)	16,928 (100%)	186,497 (38%)
Private Sector	1,302 (2%)	35,817 (9%)	--	37,119 (8%)
Total	63,923	407,664	16,928	488,515
% of gross generation by energy source	13%	83%	3%	100%

Source: *Annual Report (2001-2003) on the Working of the State Electricity Boards and Electricity Departments*, Indian Planning Commission. Figures in parentheses represent the contribution of each ownership type to gross generation, by energy source.

The financial and technical performance of the SEBs has been deteriorating for several decades. This has been the main justification given by international organizations and the central government for urging the states to reform, restructure, and privatize portions of the SEBs. Their average transmission and distribution (T&D) losses have increased from 22.2% in 1995-1996 to 29.9% in 2000-2001. The Planning Commission estimates that part of this increase is due to "more realistic estimates," which were possible after reforms in some states allowed for a better accounting of electricity theft.[36] The cost of supply per unit has also been increasing throughout the 1990s, from 1.08 rupee/ kWh in 1990-1991 to 3.27 rupee/ kWh in 2000-2001. Rising costs coupled with a lack of commensurately increasing tariffs also drive the declining financial performance of the SEBs. The average commercial losses of the SEBs increased five-fold since the latter half of the 1990s, from 46,740 million rupees (roughly US$935 million) in 1996-1997 to 248,370 million rupees (roughly US$5 billion) in 2000-2001.[37] The losses of the SEBs account for over 25% of the states' gross fiscal deficits, which grew to 895,320 million rupees (roughly US$18 billion) that year.[38] The following section outlines an argument to explain this trajectory of decline.

[36] Planning Commission, *Annual Report (2001-2002)*, 5.
[37] Planning Commission, *Annual Report (2001-2002)*, 7-8.
[38] Ministry of Finance, *Economic Survey (2003-2003*), Table 2.10

Political economy of the Indian electricity sector

Prior to independence, electricity was generated and distributed only in cities and larger towns, primarily by private companies, but also by some municipal and provincial governments, who entered the sector in the 1930s.[39] In 1948, the leaders of newly-independent India undertook comprehensive electricity legislation as one of their first tasks toward building a new nation. At the time, international conventional wisdom held that electricity was a fundamental instrument of economic development and belonged in public hands. Indigenous Indian capitalists supported the idea of the State holding the "commanding heights" of the economy, investing in electricity and other essential manufacturing infrastructure. Anticipating independence in 1944, eight prominent industrialists formalized this position in the "Bombay Plan," which advocated State ownership of basic industries including electricity.[40]

From the beginning, the sector faced a struggle in balancing the provision of electricity for industrial development – the promise on which the Bombay Plan was premised – and the promise of electricity to the masses to knit together a fissiparous and diverse nation. Until the early 1970s, this balance was tilted in favor of industry, as industrial tariffs were set significantly lower than tariffs for other consumers, contrary to

[39] Ministry of Information and Broadcasting, *Irrigation and Power in the Three Plans (1951-66)*, (New Delhi: Government of India, 1968), p. 43.
[40] H. V. R. Iengar, "A Look at the Bombay Plan in the Light of Today" in *The Bombay Plan & Other Essays*, 2nd A. D. Shroff Memorial Lectures delivered under the auspices of Forum of Free Enterprise (Bombay: Lalvani Publishing House, 1968). To what extent Indian capitalists supported planning and natinonalization is taken up again in Chapter 4. As I point out there, there were important exceptions to the nationalization of the electric sector that preserved the most profitable zones in the country—in the industrial cities of Ahmedabad, Bombay, Calcutta, and Surat—for private companies.

the rhetoric of social transformation. With secure electoral positions, the Nehruvian Centre and its allies in the states could sustain this dissonance between rhetoric and reality better than governments in later decades. Populist subsidies were not an immediate political necessity, and the State could engage in development planning with a long time horizon.[41] A further explanation is rooted in the political landscape at the time: rural interests were not yet as powerful as they later became, particularly at the state level.

As the influence of agricultural interests over legislative bodies eventually grew, policies were tailored to their benefit, mainly in the form of subsidies. The growth of rural power seeking to reorient development policies was reflected in the rise of regional political movements.[42] New parties arose to represent large farmers and the local bourgeoisie, eventually challenging Congress party hegemony.[43] This all-India generalization includes significant deviations from this macro-story within individual states. The substance of the subsequent chapters, organized around case studies of four states, will highlight the most important of these differences.

By the 1970s, the Congress, which had ruled virtually unchallenged since Independence, lost its ability to craft compromises between capitalist and agrarian interests. Freed of central coordination, some state governments yielded to the new

[41] Sudipta Kaviraj, "A Critique of the Passive Revolution," in Partha Chatterjee, ed., *State and Politics in India* (Delhi: Oxford University Press, 1997), p. 64.
[42] Ashutosh Varshney, *Democracy, Development, and the Countryside: urban-rural struggles in India* (Cambridge: Cambridge University Press, 1995).
[43] Sanjaya Baru, "Economic Policy and the Development of Capitalism in India: the role of regional capitalists and political parties" in Francine Frankel et al, ed., *Transforming India: Social and Political Dynamics of Democracy* (New Delhi: Oxford University Press); T. V. Sathyamurthy, "Impact of Centre-State Relations in India Politics: An Interpretive Reckoning 1947-1987" in Partha Chatterjee, ed., *State and Politics in India* (New Delhi: Oxford University Press, 1997)

political compulsions by introducing a regime of electricity and fertilizer subsidies for farmers. The Green Revolution drive for food self-sufficiency provided an additional, and more respectable, justification for a subsidy program. While there is no doubt that electricity subsidies helped to establish India's self-sufficiency in food production, it is also true that they primarily benefited larger landowners.[44] The subsidy regime also benefited urban consumers, a less often mentioned beneficiary of state patronage, but a necessary constituency for political survival.

Industries were made to subsidize farmers. The protectionist policies of the Indian government might have served as a compensation of sorts, but once protectionism was gradually dismantled beginning in the 1980s and accelerating through the 1990s, the prevailing system of cross-subsidies for inputs also became unsustainable. By the late 1980s, electricity subsidies had burgeoned, perceptions of corruption in the sector were rife, and the lack of investment in technology and management of transmission and distribution systems had contributed to rising theft and waste in a destructive downward spiral. In this context, the central government's shift in policy in the 1990s toward private sector and market approaches can be read as the outcome of a realignment of interests among the most powerful consumers of electricity in India, which coincided with a shift in globally- and locally-held economic ideologies.

The catalyst for opening up the sector to private investment in the 1990s was the held by many central government technocrats that capital scarcity was the biggest

[44] Francine Frankel: *India's Green Revolution: Economic gains and political costs* (Princeton: Princeton University Press, 1971). Girish Sant and Santanu Dixit, "Beneficiaries of the IPS subsidy and the impact of tariff-hike," *Economic and Political Weekly*, December 21, 1996, make a similar argument about subsidies in the 1990s.

obstacle to development. The emphasis on capital investment coincided with and was shaped by an emergent "Washington Consensus" ideology that the state should refrain from controlling resources that markets could more efficiently allocate.[45] Indeed, in this vision, retreat by the state was defined as a precondition for investor confidence. This view held that the state should focus its resources on a limited category of social spending, mainly health and education. In the private-investment-focused climate of the 1990s, electricity was outside the shrinking core of acceptable social spending by the state. This worldview had gained favor with a small but influential group of policymakers in India as well. The policy changes begun in the 1990s and culminating in the Electricity Act passed in 2003 opened the way for industrialists to invest first in electricity generation and distribution, and later to seek out low cost power directly from private producers and sell their surplus captive power back to the grid. The new Act promised the eventual end of subsidies to farmers and domestic consumers that had kept industrial tariffs high, but also a dramatic shrinking of the scope for using electricity as an instrument of development policy.

1948-1969: The Consolidation and Erosion of Public Power

In 1948, the framers of India's constitution inherited a country with only 1713 MW of power (less than two percent of India's current capacity) and with about half a percent of its villages electrified. In response, they set out to create public institutions that

[45] World Bank, *Bureaucrats in Business*, (Washington DC: Oxford University Press, 1995).

would expand electricity generation and access. In goals and methods, they explicitly drew on international experience and prevailing wisdom. The models for the Indian approach came from the centralized investment allocation and five year plans of the Soviet Union, the UK's nationalized electricity system, and the massive public works of the US Tennessee Valley Authority (TVA). India's private corporations were supportive of government plans to build large publicly owned utilities and plants to produce needed inputs for manufacturing.[46] Enterprises like steel and electricity required enormous capital investment, long construction periods, and still longer time horizons to attain profitability, and thus business agreed that the state was the instrument of choice.

Prior to Independence, the Indian Electricity Act, 1903 (amended 1910), laid out the rules by which private firms were to be granted licenses by the state to supply power. India's electricity sector was composed of hundreds of private supply and distribution companies, located almost exclusively in cities and larger towns and the industrial regions surrounding them. While the majority of these were British owned, there were a few prominent Indian players, notably the Tata conglomerate.[47] As the cities and larger towns were becoming increasingly well-lit from the 1910s to the 1940s, smaller towns and villages in between were largely untouched by this new technology.

The existing arrangements were equal neither to the task of lighting up India, nor to powering its industrial development. These were the goals of the Constituent Assembly when it sat down in August 1948 to forge a new Electricity Act. The stated

[46] Pranab Bardhan, *The Political Economy of Development in India* (Oxford: Basil Blackwell, 1984), p. 40.
[47] V.R. Muraleedharan, "The Electrification of Madras City, 1905-1914" (paper presented to the Third World Economic History and Development Conference, University of Manchester, 13-15 September 1991), 4.

objectives of the 1948 Act were to reorient the sector to "provide for the rationalization of the production and supply of electricity, and generally for taking measures conducive to electrical development."[48] Through the Act, the Assembly members created public institutions—the Central Electricity Authority and SEBs—that became the nodal agencies in the sector. Although this legislation did not reserve electricity as an entirely public domain—a task accomplished by the Industrial Policy Resolution, 1956—it did set the stage for much broader government involvement in the sector.

The Constituent Assembly debate filled many days. The debate record is crowded with references to global ideologies and practices in the sector, underscoring the role of ideology in the creation of India's electricity institutions. Consistent with the thinking of the time, there was near-universal agreement that the State should become the primary actor in the sector. But there was less agreement about how quickly, to what extent, and in what manner the State should take control, and how to accommodate existing industrial interests in the sector.

In supporting nationalization, many members were concerned with overcoming existing patterns of electrification reflecting regional imbalances, a legacy of the diversity in development objectives and success among former princely states and colonial provinces. They contended that the State must involve itself in the sector until load centers emerged in rural areas and small towns, or until incomes rose sufficiently for rural citizens to afford electricity at its cost of supply. Providing electricity to these areas would be unprofitable, and no private entity would undertake the investment.

[48] Electricity (Supply) Act, 1948, Act No. 54 of 1948, preamble.

Many of those who advocated complete nationalization, which would have meant buying out all extant private power firms, argued that this was in keeping with accepted global practices. The legislative drafting committee, or Select Committee, was aided by experts on loan from the British government, and individual members of the Constituent Assembly drew ideological succor from the UK and US for their arguments in favor of public-sector led growth in electricity. One member after another referred to British nationalization and Roosevelt's TVA, the latter as an explicit model for the Damodar Valley Corporation. One assembly member, Shibban Lal Saxena, from United Provinces, argued:

> … we know that England has nationalized its electricity, coal and some other industries. In their Electricity Act they have provided for compensation to present manufacturers…I do not think England today is abounding in wealth. She has to keep her life going today with the help of America and yet although the country is in such bad days she has taken over the key industries. I think India is much more solvent than England and she can afford to take over these concerns and pay compensation to the owners of the companies by spreading it over a number of years…[49]

The nationalizers also argued vehemently that the records of private electricity companies demonstrated disregard for the role that electricity should play in advancing the social good. A. Ayyanger, a member from Madras Province, where 90% of generation and most of distribution had already been nationalized, spoke for many in his scathing portrayal of private power firms:

> But what these [private] corporations did was to take away the cream of income from the public and not contribute even a little or a farthing to the expansion of power to the rural areas…Corporations were easily established in towns [where] for lighting and other purposes they were charging at the rate of 4 annas per unit whereas under the terms of license they were obliged to supply power for agricultural and industrial purposes at the rate of 9 pies per unit. Therefore, these

[49] Government of India (GoI), Constituent Assembly Debates (CAD), Vol. VI, Part II, 1948, Aug 9-31, 54

> Corporations always concentrated their efforts only in cities where on account of lighting they would get the largest portion of income, but they tried least to get into the villages and giving [sic] power to lift up water from wells and so on.[50]

Opponents of full nationalization argued that India did not yet have sufficient technological expertise and skilled manpower to fully take over the private sector. As we will see in the case of Maharashtra, at least one member of the Constituent Assembly referred directly to the presence of the Tata industrial group in the lucrative electricity market of Bombay, and declared that it would be unwise for the government to displace their operations.

Ultimately, the legislation that was passed fell short of full nationalization and instead represented a compromise between the government and private operators. Nehru's need to reduce tensions between socialists and economic conservatives was also a likely factor in the compromise.[51] Existing private licenses were to be honored, with state governments allowed to decide about license extensions when they expired. Subsequently, some state governments, such as Andhra Pradesh and Tamil Nadu, were quite aggressive in nationalizing the sector fully while others, such as Maharashtra, continued to extend the license period of private operators for decades, including some into the current period.

Despite the explicit recognition that the state would have to bear the costs of electrifying smaller towns and villages, the legislation did not include an overt directive to this effect. Instead, the 1948 Act mandates that the Boards must arrange for "the supply of electricity…and for the transmission and distribution of the same in the most

[50] GoI, CAD, vol. VI, part II, 9-31 Aug 1948, 41
[51] Francine Frankel, *India's Political Economy, 1947-1977: The Gradual Revolution* (Princeton, Princeton University Press, 1978), pp. 71-94.

efficient and economical manner with particular reference to those areas which are not for the time being supplied or adequately supplied with electricity."[52] However, the exact manner in which this was to be accomplished—the speed and method of finance—was left to the discretion of individual states. Accordingly, there was a wide variation in the way the states undertook the task of rural electrification over the ensuing decades.[53]

A second issue that emerged during the Assembly debate was SEB autonomy, a discussion that in many ways anticipated contemporary debates about the electricity sector. Those who were concerned about the uneasy relationship between the SEBs and the state governments sound much like contemporary critics of the SEBs. In some regions, like Madras and Mysore (now Tamil Nadu and Karnataka respectively), the state governments were already the primary owners in the sector. Electricity had become a powerful tool to control resource-allocation and generate revenues. Representatives from these regions therefore opposed the creation of SEBs, insisting that the same work could be done more efficiently within a department of the state executive branch.

Supporters of SEBs anticipated the problems of increasing interference by elected leaders, presciently envisioning a time when electricity would come to be a tool wielded to fashion and sustain political constituencies. These members argued that the SEBs should be given full autonomy. The words of K. Santhanam from Madras Presidency, who was also a member of the Select Committee, exemplify this sentiment:

> What are [sic] the British Government doing? ….Then again even in America when they wanted to start a national undertaking they established a Tennessee Valley Authority.

[52] Electricity (Supply) Act, 1948, Section 18(a).
[53] *Report on the Evaluation of the Rural Electrification Programme*. New Delhi: Programme Evaluation Organisation, Planning Commission, 1965, 32.

> These democratic governments knew what nationalization meant; they knew that these industrial undertakings should not be left to the vagaries of ministerial change…Ministers may change, and changing Ministers may have changing policies; but the day to day administration of industrial undertakings should be continuous and should not be disturbed by political considerations."[54]

Again, an uneasy balance was struck to pacify two opposing camps. The legislation mandated that all of the states would eventually create autonomous corporations, but allowed states sufficient time—initially two years from the passage of the 1948 Act, but with the explicit promise of further extensions if they proved necessary—to establish these bodies.[55] All the states took full advantage of this provision, and many waited to establish their Boards until the late 1950s and early 1960s. Given the regional differences within the still-unstable union, this kind of compromise was necessary to garner sufficient support to enact the bill into law.

Over time, successive amendments to the Act further eroded SEB autonomy by gradually diminishing the Boards' freedom to set tariffs and imposing greater political oversight in personnel decisions. An amendment in 1949 permitted the states to appoint their own chief engineers and other members of the government to become chairmen and members of the SEBs, which collapsed the interests of the boards and the state governments. A 1956 amendment added a vaguely worded provision that the SEBs would take "policy directives" from the state government.[56] The same amendment also retracted the SEBs' ability to set tariff levels independently; instead the Boards would

[54] GoI, CAD, vol. VI, part II, 9-31 Aug 1948, 50.
[55] Section 5.1 of the Electricity (Supply) Act of 1948 reads that the "State Government shall, as soon as may be after the issue of the notification under subsection (4) of section 1, constitute by notification in the Official Gazette a State Electricity Board…"
[56] Section 10.5, which was added by Act 101 of 1956, states, "If the Board fails to carry out its functions, or refuses or fails to follow the directions issued by the State Government under this Act, the State Government may remove the Chairman and the members of the Board and appoint a Chairman and members in their places."

have to secure government approval. This was driven by dissatisfaction with existing tariff levels. Tariffs for agricultural consumers reflected the higher costs of serving remote rural areas, whereas industrial consumers were charged relatively less to reflect the lower cost of serving consumers who were concentrated geographically and consumed in large quantities. By subjecting the tariff-setting process to state government approval, conditions were created for departing from narrow economic rationality. Whatever else might be said for it, this opened the door for electoral considerations to influence the tariff-setting process.

1970s and 1980s: states' populism and creeping centralization

Decreasing bureaucratic autonomy and increasing scope for political control over SEBs ultimately led to financial crises in the sector. As discussed earlier, the emergence of powerful new farmers' organizations in the 1960s and 1970s and associated political formations within the Indian states were an important contributing factor. They demanded increased support for agricultural inputs, particularly irrigation and fertilizer.[57] Beginning in the late 1970s, state after state responded by subsidizing electricity, a policy that was also justified because of the precedent set by subsidized canal irrigation rates.[58] Over this period, many states also switched from metering agricultural consumption to

[57] Partha Chatterjee, *A Possible India: Essays in Political Criticism* (New Delhi: Oxford University Press, 1998), p. 67-73; Stuart Corbridge and John Harriss, *Reinventing India: Liberalization, Hindu Nationalism and Popular Democracy* (Cambridge: Polity Press, 2000), pp. 78-83; Charan Singh, *India's Economic Policy: the Gandhian blueprint* (New Delhi: Vikas Publishing House, 1978), p. 47.
[58] Mona Sur and Dina Umali-Deininger, "Public Expenditures and Subsidies in Indian Surface Irrigation: Who Benefits" (paper presented at Water Week 2003, conference organized by World Bank, Washington D.C., 4-6 March 2003).

flat-rate billing. The lack of metering allowed SEBs to hide transmission and distribution losses and theft of power under the category of agricultural consumption. To offset the losses from lower tariffs for agriculturalists and concealed theft, SEBs gradually began charging higher rates for industrialists, resulting in a system of cross-subsidies. Eventually this led in the 1980s and 1990s to many industrialists eschewing high-cost power from the state grids in favor of in-house captive generation, leaving the SEBs with fewer financially valuable customers.

India's self-sufficiency in food production and other compelling (if difficult to quantify) social equity gains are oft-cited, and also oft-debated, benefits to the subsidy policy. Whatever their ultimate merits, the absence of clear oversight and financial guidelines for subsidy delivery placed increasing financial strain on the SEBs. Moreover, in a self-reinforcing cycle, agricultural subsidies had the political effect of further strengthening rural interests within the states, which in turn made the subsidy regime difficult to reverse.

The performance of the SEBs also deteriorated due to corruption.[59] The management of the SEBs was subject to political interference that ranged from personnel decisions to the awarding of contracts for construction and manufacturing in the sector. Selective granting of contracts proved profitable for politicians eager to swell their campaign coffers.[60] As the financial position of the SEBs worsened, the utilities were

[59] Corruption is alluded to broadly in the press, government reports, and conversations with people connected to the industry, but to my knowledge there has been no systematic study of employee-aided corruption.

[60] For example, N. S. Vasant, a former SEB chairman, stated that in a particular northern state, the list of contractors hired for projects in the electricity sector changed with a change in the party in power; interview by author, New Delhi, 25 October 2002.

less able to add generating capacity and maintain transmission and distribution networks, resulting in technical deterioration and lost efficiency. State finances were caught up in the downward spiral, as state governments were ultimately responsible for the financial health of SEBs.[61]

A significant consequence of the ailments plaguing the SEBs was their inability to generate capital. Beginning in the late 1960s, the central government responded to the problem of capital scarcity by creating central institutions first to finance state organizations and later to independently build new capacity. In 1969 the central government established the Rural Electrification Corporation with World Bank aid to finance transmission extensions. In the mid-1970s the central government, again with World Bank assistance, established the NTPC and the NHPC to expand electricity generation. The development of NTPC especially had far-reaching implications, shifting the balance of power towards the center in a sector the states had dominated alone.

Although central government intervention staved off capacity shortages in the short term, electricity was increasingly a constraint on economic growth. By the end of the 1980s, industry was increasingly dissatisfied with low quality power, high tariffs, and restrictions on private production. However, it took a seismic change in global thinking on electricity to topple the consensus on public power and set in motion fundamental changes in the sector.

[61] Due to recommendations made by the Venkataraman Committee, appointed to review the financial ills of the sector, the 1948 legislation was amended to stipulate that tariffs must generate a 3% return on the value of the SEB's fixed assets. Often, this condition was met only because of subventions from state governments; it was more common for the Board to fail in meeting its target, and the state government to fail in providing a subvention.

Liberalization in the 1990s

The second significant historical moment in the Indian electricity sector occurred in the 1990s. In the face of managerial and fiscal failures in the sector, industry dissatisfaction, and a national macroeconomic crisis, the central government announced in 1991 that it would encourage private investment in power. Over the following decade, state and central governments began to re-organize the sector around the market, encouraged by a new global electricity paradigm that favored private ownership and competition over publicly owned monopolies. India's reforms proceeded in three stages: in the first, the central government encouraged private investment in generation; in the second, a response to the inadequacies of the first, the central government encouraged privatization in distribution and the formation of regulatory commissions; in the third, the Electricity Act of 2003 re-wrote the basic laws and re-shaped the institutional infrastructure governing the sector.

Phase One of Reforms: Independent Power Producers

In 1991, while battling a balance of payments crisis, the central government amended the Electricity (Supply) Act of 1948 to make the sector more attractive for private investment. Introducing the Lok Sabha debates, Minister of State Kalp Nath Rai argued that the amendment was necessitated by a paralyzing scarcity of financing for the sector. This argument was echoed by both enthusiastic and reluctant supporters.

Remarkably, the concerns that were so passionately argued in 1948 – regional balance, urban-rural balance, and the broader public interest – were almost entirely absent. Even the left opposition ignored broader issues in favor of a focus on labor. In 1991, the concerns of policy-makers with regard to electricity were far removed from those in 1948; the idea of electricity as an instrument of social development no longer aroused political passions.

That the electricity debate took place under the shadow of a severe macroeconomic crisis is one reason that the 1991 reforms went largely unchallenged. Also important, however, is the broader context. Influenced by the Reagan-Thatcher 1980s, economists and policymakers in India questioned Nehru-era policies of centralization and state ownership. Industrialists no longer supported government control of the commanding heights, and embraced the new ideology of reduced state involvement in the sector, which offered industry a way to expand electricity supply options and extricate itself from the financial drain of cross-subsidies. State governments also came to favor increased private investment. Leaders began to understand that sector finance and supply shortages threatened development in their regions. By the early 1990s, most SEBs were locked into providing highly subsidized electricity to agricultural and residential consumers, and most were prevented by state governments from increasing tariffs to match increases in production costs. While the price of coal and the cost of transporting it to generating stations increased, SEB revenues remained unchanged. As a result power utilities were increasingly unable to pay their bills. Because coal and railways belonged to the central government, their inability to collect payments from

SEBs became a source of tension between the center and the states, and a reason for the center to demand a change in the status quo. The states also came under pressure from international financial institutions, which demanded reforms in the SEBs before granting new loans.[62] The twin pressures from the central government and international lenders led state governments to welcome the private sector.

In addition, the inadequacy of power sector data contributed to the momentum for private generation. Transmission and distribution (T&D) losses by SEBs – including theft -- were consistently under-reported, while agricultural consumption was inflated. In reality, inadequate metering of farmers permitted misreporting of theft as agricultural consumption. This erroneous reporting contributed to the view that the main problem of the Indian power sector was inadequate supply rather than mismanagement, theft, and corruption. Since the early 1990s, one SEB after another has upwardly revised their figures for T&D losses, suggesting that capacity addition alone could never have solved the sector's difficulties.[63] At the time, however, there was a near consensus that power deficit was the main problem, spurring the IPP policy.

While all of these forces were operating to advance the government's 1991 reform amendment, there were few countervailing pressures opposing it. In the early 1990s, there was not yet a broad-based opposition to neoliberal reform, and following on the heels of the economic crisis of mid-1991, the public was prepared to support policy

[62] Fernando Manibog, Rafael Dominguez, and Stephan Wagner, *Power for Development: A Review of the World Bank Group's Experience with Private Participation in the Electricity Sector* (Washington D.C.: World Bank, 2003), p. 2.

[63] Since the mid-1990s, many scholars have suggested that managerial rather than structural reforms would solve most problems in the power sector, a view echoed by unionists in the sector and anti-privatization activists. See Joel Ruet, ed., *Against the Current: Organizational Restructuring of State Electricity Boards* (New Delhi: Manohar Publishers, 2003); and Kannan and Pillai, *Plight of the Power Sector in India*.

changes that would avoid future crises. Although the public utilities constitute one of India's largest employers, labor unions in the sector had not yet organized effectively to oppose privatization.[64] Indeed, the IPP policy was not initially perceived to threaten labor or public utilities, so there was not a strong incentive for labor opposition. Similarly, there was no broad agitation from farmers against the reforms because the IPP policy was not discussed in the context of eliminating subsidies, which continued and even expanded throughout the 1990s.

Taken together, macroeconomic crisis, political and economic pressures on the states, flawed data that highlighted generation-scarcity, and the lack of organized opposition explain the rapid passage of the 1991 amendment. The incentives to private power investors were substantial. The initial licensing period for private generators was extended from twenty to thirty years, and the subsequent renewal period was increased from ten to twenty years. Similarly, the rate of return on capital investments, formerly set at 2% over the Reserve Bank of India rate, was increased to 5% on all investments made after the legislation came into effect. Foreign equity participation was liberalized, and an expedited single-stop approval process was created to replace the multi-ministry approval process of the past.[65]

After the 1991 amendment was passed, private firms rushed to sign Memoranda of Understanding (MOUs) with central and state governments. In 1992, the central

[64] Wide-spread labor opposition to electricity reform did not begin in earnest until the late 1990s, when states began to dismantle the SEBs. The National Coordination Committee of Electricity Employees and Engineers was formed only in 2000, when large-scale labor protests in Uttar Pradesh followed the state's announcement of plans to unbundle its SEB. B.S. Meel, General Secretary, Electricity Employees Federation of India, interview by author, New Delhi, 5 December 2002.
[65] *The Gazette of India*, No. 237, New Delhi, Tuesday, October 1991.

government assigned eight IPP projects "fast-track clearance," which allowed these projects to leap over licensing hurdles in order to expeditiously address the capacity shortage. In just five years time, by 1996, the government had received 190 proposals from IPPs, which, if completed, would have produced over 75,000 MW of electricity. Of these only 15 went on to the stage of applying for a techno-economic clearance from the Central Electricity Authority.[66] MOUs were signed for plant construction all over the country. Of these, the largest, most capital-intensive, and the one that would have resulted in the highest-cost power, was signed by Enron and the Maharashtra State Electricity Board (MSEB) in 1992 to construct a gas-fired, 2,000 MW power plant in Dabhol, in coastal Maharashtra.

From the start, the wisdom of Enron's Dabhol project had been widely questioned. Both state governments and the Enron corporation were accused of acting with a lack of transparency and regard for the public interest.[67] A range of actors from the CEA to the World Bank to activists questioned the economics of the project, pointing out that the high projected cost of power and the dollar denomination of the contract would expose the power purchaser, the Maharashtra SEB, to financial risk.[68] Activists and agrarian communities also protested the environmental and social costs of the project, including inadequate compensation to farmers and potential human rights abuses

[66] Jayanta Sarkar, "Letter from India: Political balkanization continues to poison IPP environment," *Electrical World* (November 1996): 66.
[67] There is an extensive literature about the Dabhol project. See Abhay Mehta, *Power Play: A Study of the Enron Project* (Mumbai: Orient Longman Ltd., 1999), and Prabir Purkayastha and Vijay Prashad, *Enron Blowout: Corporate Capitalism and Theft of the Global Commons* (New Delhi: Leftword, 2002). The journals *Economic and Political Weekly, Frontline, Outlook, and Business India*, have devoted many articles to the issue, as have all of the Indian financial and general newspapers.
[68] Mehta, *Power Play*, pp. 27-30. Also see "Enron Backtracks, deal nears," *Financial Times, FT Energy Newsletters*, 13 September 1993.

associated with project construction.[69] The project also became a central issue in state politics, with two Hindu nationalist parties campaigning on an anti-Enron plank, only to cancel and re-negotiate the contract when they came to power. Ultimately, fears of financial unsustainability proved true. With state and central governments refusing to honor their financial guarantees of payment, the plant has been idle since 2001, and embroiled in a bitter dispute between the various parties.

Phase Two of Reforms: Distribution Privatization and Independent Regulation

By the mid-1990s it was clear that a focus on private investment in generation was an insufficient, and possibly counterproductive, policy. Not all PPAs were controversial, nor did all fail as spectacularly as Enron's did. Nevertheless, the saga of Enron in Dabhol, ending as it did in a high-profile contractual dispute, clearly demonstrated the difficulties with expecting IPPs to solve the sector's problems. As long as private generating firms had to sell their power to insolvent SEBs, financial risks would remain intolerably high. By attempting to weaken the link between politicians and electricity bureaucrats, privatization and independent regulation were intended to address the problem of political interference with the SEBs, which kept subsidies too high and collections too low for SEBs to pay their bills.

The first solution proposed was to privatize electricity distribution, and the second was to establish regulatory institutions. These mechanisms were intended to alter the

[69] "The Enron Corporation: Corporate Complicity in Human Rights Violations," Human Rights Watch, 1999; "The 'Enron Project' in Maharashtra – protests suppressed in the name of development," Amnesty International, 1997.

relationship of the state utilities to consumers, and of state governments to utilities. Their intent was to remove electoral considerations from electricity governance.

These reforms were quite clearly drawn from the playbook of the World Bank, which, in 1993, had re-written its policy to emphasize private participation in the power sector. Its global reach and cheap capital made the World Bank the primary vehicle for propagating the new private power paradigm, in India as elsewhere. In the second half of the 1990s, various Indian states experimented with distribution privatization and regulation. While some states fully privatized distribution, others have only recently unbundled their SEBs. In large measure, these differences reflect variations in the balance of power among different social and economic actors in the states.

The first state to undertake distribution privatization was a seemingly unlikely locale. Orissa, a state that lies along India's eastern coast, is most often mentioned in the international media as the site of tropical storms that have devastating effects on the state's economy and infrastructure. It has one of the lowest per capita GDPs in India. Other factors, however, favored Orissa as a site for privatization, chief among which were the small size and organizational weakness of its agricultural sector.

Orissa unbundled the state SEB in 1996, and later privatized the four resultant distribution zones. Private entities were expected to lower the transmission and distribution losses; increase management efficiencies; and make capital investments to improve the technical performance of the sector. According to an official Government of Orissa appraisal committee report, the vision for the reforms emanated entirely from the

World Bank and depended on Bank loans for project support.[70] Additionally, the reforms were executed with the aid of consulting firms—most of them foreign—paid using bilateral and multilateral funds. When the state initially invited bidders for 51% equity stake in the four distribution zones, only a single Indian firm—Brihanmumbai Suburban Electric Supply (BSES)—qualified to purchase the assets. Another firm, US-based AES, already had a generation presence in Orissa, and was persuaded by the Orissa government to bid for one distribution zone as well.[71]

There is now a widespread consensus that privatization in Orissa was a failure, although the causes of failure are fiercely disputed. Proponents of privatization argue that the government continued to interfere in the functioning of the sector, preventing the private firms from eliminating electricity theft in order to avoid electoral repercussions.[72] In its own review, the World Bank concludes "reform in Orissa has shown that privatizing distribution through the sale of assets is a feasible option in India" but suggests the need for modifications in approach.[73] These include expanding the size of the distribution zones to ensure financial viability; extending the tariff-setting process from annual to every five years; and cultivating more transparent regulation and possibly mandating that regulators consider the financial health of the regulated companies. Opponents of privatization argue that the private firms, wholly concerned with profits,

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[70] *Report of the Committee on Power Sector Reform in Orissa*, Government of Orissa, October 2001, Section 4.5-4.6.
[71] Sudha Mahalingam, "Power as a commodity," *Frontline* (18-31 August 2001).
[72] Edwin R. Lim, Country Director, World Bank, "Conference on Distribution Reforms" 12-13 October, 2001." The conference was jointly organized by FICCI (Federation of Indian Chambers of Commerce and Industry), Powergrid (a central public sector undertaking), and the union Ministry of Power.
[73] "Power Sector Reform in India: Lessons for other states in India," World Bank, p. 2. Available from <http://wbln0018.worldbank.org/ppiaf/activity.nsf/files/INDIA.pdf/$FILE/INDIA.pdf>.

failed to make capital investments to improve the technical efficiency of the sector, and were shielded from being forced to reduce theft because of the nature of their contracts. Citing information provided in the official appraisal report, some have charged that the bulk of the funds meant for reforms went into the pockets of international consultants, who were the only real winners in the reform process.[74]

Whatever the causes of Orissa's failure, there is little doubt that the experiment has left the state's electricity sector in a shambles. The state transmission company is in dire financial straits, hoped-for improvements in service have yet to materialize, and one private investor, AES, has abandoned the experiment altogether.[75]

The only other state to successfully privatize distribution is the capital territory of Delhi, which did so in July 2002. Delhi's Electricity Board was unbundled into three distribution zones, two of which were bought by Reliance Energy (then BSES) and one by Tata Power Company, parts of two of India's largest industrial conglomerates. Reliance in particular is expanding its presence in the energy sector. However, there is fear that if these are the only two Indian companies able to purchase the large distribution segments that result from unbundling, these firms will have undue control over the sector.

The second strategy employed to "depoliticize" the sector was to create autonomous institutions to regulate tariffs. The Central Government passed the

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[74] Sudha Mahalingam, "A reform fiasco in Orissa," *Frontline* (11-24 May 2002). The National Working Group on Power Sector, composed of unionists and retired members of SEBs and the CEA, makes a similar argument to support their anti-privatization stance: "In the Third World changes are based almost entirely on studies and recommendations made by self-serving World Bank consultants who are generally foreigners and almost always chartered accountancy firms with no experience of the power system and/or the society and social concerns of a particular nation." In "Reforms in Power Sector – Why? And for whose benefit?," available at <http://www.geocities.com/CapitolHill/4645/reformpower.html>.

[75] *Report of the Committee on Power Sector Reform in Orissa*.

Electricity Regulatory Commissions Act in 1998. Several states had preempted the central government in creating State Electricity Regulatory Commissions (SERCs), the first being Orissa. The differences in the legal frameworks governing the various SERCs are minimal, but their operations vary from state to state, in some cases including activities such as plant licensing. While restructuring and privatization have proceeded slowly, and only in a handful of states, almost all states have now established a regulatory commission.

The main criticisms of the new regulatory regimes have focused on their relationship to elected leaders, which some consider far too cozy.[76] The regulators themselves are chosen from among retired or nearly-retired bureaucrats, many of whom naturally have pre-existing relationships with government from having served in other bureaucratic capacities. Additionally, some state governments have not granted sufficient financial resources to the commissions, prompting the worry that governments will use this leverage over finances to exact politically convenient decisions.

Still others are cautious in holding up regulatory commissions as the solution to the industry's ills because of the possibility of regulatory capture by private companies and utilities.[77] Theoretically, independent regulators are charged with establishing tariffs that balance the competing interests of private companies, utilities, consumer groups, and the public interest. In theory, each of these groups is able to represent its interests before the regulator. In practice, however, private companies and public utilities are better able

[76] A harsh criticism of regulation in Delhi, one that questions the commission's insulation from both government and private companies, is offered in Gajendra Haldea, "Crisis of Credibility: Law must Regulate the Regulator," *Times of India*, 22 January 2004.
[77] Amol Phadke and Sudhir Chella Rajan, "Electricity Reforms in India: Not too Late to go Back to the Drawing Board," *Economic and Political Weekly* (19 July 2003): 3061-3072.

to organize to represent their interests than are consumers. Moreover, there are considerable inter-state differences in how regulatory commissions function. The sole comprehensive study on performance of regulatory institutions in India indicates variations in the level of resources and autonomy granted to the SERCs; the degree of transparency and public participation in the regulatory process; regularity in publishing annual reports and holding consultative committee meetings; and the nature of state government and utility interaction with the regulators.[78]

The potential but also the challenge of effective regulation is illustrated by an example from Maharashtra. The first task of the Maharashtra Electricity Regulatory Commission (MERC) in 1999 was to evaluate the merits of a tariff increase proposed by MSEB. MSEB requested that tariffs be increased by almost 10% to enable the Board to earn a surplus of 4.5% of the value of its fixed assets.[79] The public was then invited to submit comments on MSEB's proposal, a document of about 40 pages. Prayas, an NGO that has been active in energy issues in India, immediately requested that MSEB supply additional information to justify the tariff increase, and to detail its other revenue-enhancement measures. MERC ruled that Prayas had the right to make such a request, and ordered MSEB to provide additional information.[80]

This anecdote suggests the presence or absence of competent and organized consumer groups is a key variable in determining the success of regulation.[81] This point is often lost amidst the chorus from policymakers, donors, and bureaucrats in Delhi on

[78] Prayas, "A Good Beginning but Challenges Galore," pp. 41-45.
[79] MERC, *Interim Order in Case No. 1 of 1999*. Available from <http://www.mercindia.com/ORDERS.HTM#>.
[80] MERC, *Case No. 2 of 1999*. Available from <http://www.mercindia.com/ORDERS.HTM#>.
[81] A similar point is made by Phadke and Chella Rajan, "Electricity Reforms in India."

the importance of financial and managerial autonomy for regulatory commissions and the associated freedom from political interference. While regulation does create conditions for greater transparency and accountability in tariff-setting, in order for the process to work in the public or consumer interest, they must be adequately represented. Ironically, Maharashtra is in the forefront of consumer advocacy in power because Prayas and several other groups were galvanized into action by the Enron controversy. In the absence of such groups, it is unclear whether the MERC would be an equally effective instrument to promote the public interest.

Phase Three of Reforms: Electricity Bill 2003

While state reforms have scarcely been a runaway success, they did have the merit of attempting to focus on the central problems at hand – distribution reform and SEB losses – albeit with far from satisfactory outcomes. With distribution reform firmly on the agenda, the central government re-entered the fray with an attempt to replace *ad hoc* state efforts with an overarching framework to guide reform. Thus, in contrast to World Bank-led state reforms, the Electricity Act 2003 represented the internalization of the new global ideology of electricity at the highest levels of India's central government. The new legislation, passed in May 2003, replaces all existing legislation in the sector and prepares the ground for a fundamental restructuring of the Indian electricity sector. The intent is to deepen and formalize the transition that is already underway in some Indian states. To critics of the legislation, by focusing on private participation the Act establishes the conditions for electricity to be managed solely as a commodity rather than

as a social good that the state is obligated to provide to its citizens. Many expect the result to be a return to the pre-Independence conditions that had originally spurred the creation of SEBs, when electricity flowed primarily to cities, areas with concentrated loads and robust purchasing power.[82]

The Ministry of Power submitted a draft of the Electricity Bill to the Parliamentary Standing Committee on Energy in August 2001, a bi-chamber, all-party committee that debated the bill for fifteen months. A number of changes were suggested to strengthen competition. For example, the revised legislation stipulated a firm timeline for the implementation of open access, meaning the ability of industry to buy power directly from private generators. After being passed by the Committee, with notes of dissent from the Communist parties, the bill returned to the Ministry of Power in December 2002. The Ministry accepted only some of the Parliamentary Committee's suggested changes. Notably, a timeline for the introduction of open access was again omitted in the bill. The new version of the bill was passed by the Indian Parliament in May 2003. In contrast to the debate on the 1948 Electricity Act five decades earlier, the debate in the Lower House was brief—just over an hour—and was sparsely attended.

The scope of the act is wide, with implications for the structure, functioning, and regulation of the sector. First, while retaining transmission functions in government-owned companies, it allows for open access in transmission and the phase-in of open access in distribution, along with scope for power trading. Undoubtedly the most controversial provision of the Act, as evidenced by the repeated insertion and deletion of

[82] Ashok Rao, member of National Working Group on Power, interview by author, New Delhi, 9 October 2003.

a timeline for this measure, open access would open the door to industrial flight from public power. Second, to complete the agenda begun in 1991, it eliminates licensing requirements for generation, including captive generation by industries. Third, it introduces a series of measures to address the management and finances of distribution utilities. Specifically, the Act introduced mandatory metering and stringent provisions against electricity theft, together with a requirement that subsidies must explicitly be paid for out of state budgets. Fourth, the Act decentralizes responsibility for rural electrification to local bodies, non-governmental organizations, cooperative societies, and private licensees. It calls for universal electrification to be completed but contains few specifics regarding how this is to be accomplished. Fifth, the Act introduced various consumer protection measures, notably creation of an Appellate Tribunal to hear cases appealed from the state or central regulatory commissions, and established an Ombudsman to hear consumer grievances.

The basic thrust of the Act is to open the sector to private involvement and scale back the role of state governments. But for many the Act does not do this fast enough or surely enough; the legislation is said to harbor an incumbency bias that protects the interests of existing utilities at the expense of consumers. In an editorial on the Electricity Act 2003, one of its early drafters, who had pushed unsuccessfully for including strict guidelines for the introduction of competition in distribution, argues that “delay in introducing open access means delaying competition and private investment. Shortages will continue and consumers will have to rely on the public sector, which does not have

the resources for meeting the entire demand. This seems a sure recipe for power shortages and high tariffs."[83]

Another reading of the legislation is that numerous revisions have resulted in the inclusion of contradictory policy principles. As one news article states, the act "incorporates viewpoints, ideas, concepts, constraints and requirements from a wide range of interested parties and has thereby undergone a number of changes."[84] The resolution of these contradictions will require several additional policy directives. For example, the Act mandates a gradual reduction in cross-subsidies, which will entail dramatic tariff increases for rural and residential consumers. Such a move would not only have electoral consequences, it is also not clear whether poor Indian consumers, particularly from rural areas, can afford cost-of-supply tariffs. The Act also stipulates that whatever subsidies the states want to grant must come in a direct form, through a transparent payment to whichever utility is serving those customers. However, since the early 1990s, and accelerating in the mid-1990s, the states' fiscal resources have come under greater strain. A direct subsidy might be possible in wealthier states, but for the majority of middle- and low-income states—the ones with the greatest number of middle- and low-income consumers—this is not feasible.

In sum, the Act no doubt represents a concerted effort to address the core issue of the distribution sector and its mismanagement, subsidy, and metering problems. It also makes efforts to address broader public concerns, such as rural electrification and

[83] Gajendra Haldea, "Empower Consumers: Plug Loopholes in the Electricity Bill," *Times of India*, 16 April 2003.
[84] "Empowering Contradictions in the Electricity Act," *Financial Express*, 27 July 2003.

consumer protection. However, the zero-sum trade off between the core provision of open access, subsidies to agricultural and urban consumers, and the fiscal burden on the states will almost certainly bring political tensions into sharp focus.

Conclusion

In the 1950s, India's industrialists supported public control of the sector, a position that was buttressed by unchallenged global norms of state-led development. At the time, low tariffs for industry reflected the lower marginal cost of supplying large urban customers, and India's large farmers were not yet sufficiently organized or politically represented to pose a challenge. Moreover, the country was governed by a single dominant political party in which disagreements between disparate interests were negotiated internally rather than on the electoral battlefield.

By the 1970s, in some parts of India, the rural elite were better organized, and regional parties had emerged to represent these new interests. Agricultural subsidies were adopted to increase India's food supply after successive years of drought and under-production. Gradually, industrial tariffs rose relative to those for other consumers, and given the growing political importance of farmers in many states, industry had little room for negotiation with state governments.

It is in this context that important differences in state political economies impact the kinds of policies that state governments pursue in the 1990s. The coalitions that have a voice in government are distinct in different parts of India, and these important

differences in the array of the "dominant proprietary classes" impacts states' policy choices, as we will see in the forthcoming chapters.

At the national level, however, by the late 1980s and early 1990s, a new global ideology that emphasized private over state ownership provided a ready vehicle for industrialists to articulate dissatisfaction with the high cost and poor quality of electricity. Many industries were producing their own power and sought to sell the excess back to the SEBs. After several state-level experiments, demands for a fundamental shift in electricity policy were satisfied by the passage of the Electricity Act 2003, which mandates significant institutional changes, like the dismantling of the SEBs and the introduction of competition in distribution. However, many state governments have been reluctant to adopt policies that would be politically damaging, particularly with respect to tariffs.

During the 1990s, differences emerged among India's states in terms of how, and how fast, marketization took hold. It is these differences that the following four, state-level case study chapters address; when looked at together they provide a picture of the varying trajectories of electricity policies in India.

Chapter 3: Orissa: The leading edge of utility privatization

Hard Decisions are a must. No development is possible without human sacrifice. Be it Ashoka or Peter the Great, human lives perished but that is how their great empires flourished. In Chernobyl or Bhopal, human sacrifice was the cost that one had to pay for development. When aeroplanes first started, people were sacrificed. The development of rockets sacrifice scientists. So for any human development, there have been human sacrifices galore. So why do we shy away from paying a price for development?
-Biju Patnaik[85]

In a scenario where the world situation is changing fast we should be poised to grab the opportunities that come our way and do away with dilatory bureaucratic fetters which stifle initiative and growth.
-Biju Patnaik[86]

Introduction

Throughout the 1990s, an aggressive global consensus advocated that capital-scarce economies with growing energy needs should turn to private sources to set up new generating plants. By the late 1990s, however, it had become clear to many of these same advocates that the electricity sector could not be fixed merely by allowing private companies to sell power from new plants to existing state-owned electricity companies to distribute to consumers. Since this realization dawned in India, as Chapter 2 outlines, the central Indian government and multi- and bilateral donor organizations have been advocating privatization of electricity distribution utilities. Despite this strong urging, however state governments have resisted privatization. By 2004, almost a decade after

[85] Biju Patnaik, "Soft State, Hard Decisions" *Times of India*, June 13, 1993, as told to Sabina Seghal; Reprinted in "Brainstorming Deliberations of Biju Patnaik," *Orissa Review* (February-March) 2005: p.42.
[86] Biju Patnaik, Meeting of the National Development Council, June 18-19, 1990. Reprinted in "Brainstorming Deliberations," *Orissa Review*, p. 31.

the first national-level conference was organized to promote the policy in Jaipur, Rajasthan, only two regional governments, in Orissa and Delhi, had privatized distribution systems.

This chapter and the next analyze the political economic conditions in which these two cases of privatization unfolded. Although we can identify for each case a unique combination of proximate causes of privatization, in both cases the lack of organized rural consumers and the fact that neither state had strong ties to rural interests were important factors in explaining the greater policy autonomy in Delhi and Orissa compared to other states in India.

Pairing Orissa and Delhi also offers a way to test whether privatization is primarily driven by the policy preferences of actors outside the state, like national elites in Delhi or multinational elites at the headquarters of the World Bank and Asian Development Bank, as other explanations of privatization in Orissa have emphasized.[87] However, Delhi, which privatized its distribution system a few years after Orissa, did so without pressure from international institutions. In that case, the critical factors were politics internal to Delhi and to some extent, dynamics between central government-owned generating companies and the Delhi government.

In both states, the all-important agricultural lobbies that had benefited from subsidized power were absent. As Delhi grew from the 1960s to the 1990s, the rural and agricultural hinterlands were taken over for industrial, urban residential, and commercial

[87] A. Thillai Rajan, "Power sector reform in Orissa: an ex-post analysis of the causal factors" *Energy Policy* 28 (2000): 657-669 provides a typology of three layers of causal factors—context, trigger, and facilitator—and lists a number of variables in these categories, including World Bank lending terms, OSEB insolvency, state fiscal crisis, support of OSEB chairman, weak farm sector, and support from state and central government.

uses. This process meant that by the 1990s, there were very few agriculturalists and only a small quantum of power was put to agricultural use in Delhi. In Orissa, by contrast, a majority of the population depended on agricultural for their livelihoods. However, agriculture historically had suffered from underdevelopment, including a neglect of rural electrification. Whereas some state governments could claim that 100 percent of their villages were electrified as early as the late 1980s, rural electrification covered less than 80% of villages in Orissa by the early 2000s.

One possible reading of modern Indian political history is as a process of progressive democratization. In such a reading, the point of origin might be in the colonial period, when the British conceded limited suffrage to Indians in provincial legislative bodies. The franchise expanded gradually during the colonial period, and then increased exponentially following independence when the Indian constitution guaranteed universal suffrage in the first national elections held in 1952. Within the framework of universal franchise, the social composition of the political class changed slowly over time, as the logic of numbers in the electoral game, and political organizing along lines of caste and community brought new social groups to power. In some parts of India, this process began even before independence, when peasant castes challenged the social, political, and economic dominance of high caste groups primarily through non-Brahmin movements, which were particularly strong in parts of south India and western India in the 1920s and 1930s. Following independence, numerically strong, middle peasant castes seized state power in other regions of the country, as in Bihar and Uttar Pradesh from the late 1980s to the present.

This process, in which old, or traditional, elites were first challenged and then displaced by aspiring social groups, has not affected Orissa nearly as much as other parts of the country. The political class of present-day Orissa is very similar in terms of both socio-economic profile and caste identity (high caste with professional and industrial backgrounds), to the political class that formed during the nationalist era. Many of the same personalities remain in place, or in some cases their sons, wives, and sons-in-law have stepped in to fill their roles.

The vision of development that has held sway in Orissa likewise has not changed significantly over time. The focus, as the chapter suggests, has been a supply-side model of development with an emphasis on industrialization, and it is in this context that privatization of electricity became important for the state elite's agenda. Infrastructure bottlenecks were a significant reason that the state could not attract private industrial activity. But the efficiency gains that would accompany privatization were believed to be sufficient to turn around Orissa's industrial fortunes. Privatization promised to deliver more reliable power to industrial consumers at lower costs, an outcome that has largely been achieved in Orissa. The anticipated negative consequences of privatization were higher tariffs for rural and residential consumers and the decline of the state's rural electrification program. Yet, as the quote that opens this chapter suggests, the chief minister who initiated privatization, Biju Patnaik, discounted these related welfare costs. These were simply the necessary price to be paid for development.

In 1993, the government of the eastern state of Orissa started a process that, three years later, would result in the complete overhaul of the state's electricity system.

By 1997, significant portions of the utility were privatized, sold to one Indian and one American electric power company. Unlike previous attempts to reconfigure electricity systems in India, which had focused mainly on changing the mix of publicly and privately generated electricity, the plans in Orissa involved changing the ownership structure of the system in its entirety, not only its generation but also distribution and transmission systems.

By most measures of economic rationality, Orissa was the least likely candidate for such a radical experiment. Not only was the state among the poorest in India on many indicators of human, social, and economic development, but electrification had proceeded much less rapidly in Orissa than in other parts of India. As Chapter One details, rural electrification was among the foremost concerns driving nationalization of the sector in the late 1940s, prompted by the track record of the colonial-era private electric companies that had concentrated their energies in India's towns and cities, largely bypassing its villages. If the completion of publicly subsidized rural electrification was the marker of a mature electricity system, one ripe for a change in form and function, a more advanced state, like Punjab or Haryana would have made a likelier candidate for privatization than Orissa, which still had a great many un-electrified villages.

Why did the government of Orissa privatize given these constraints? I suggest that the explanation lies in the contours of social and political power in the state. Most existing accounts for Orissa's unlikely privatization focus on the lending terms imposed by the World Bank. Those studies that do mention the importance of state-level factors, like features of Orissa's political economy, do so only in passing. While the importance

of actors like the World Bank, the Asian Development Bank, and the Indian central government should not be discounted, this analysis focuses on the state's political economy. I suggest that privatization of the electricity sector—with all of the promises that it afforded—was a pragmatic decision taken by a political elite committed to development through large-scale industrialization.

Although Orissa's population is primarily rural, there have been no significant agrarian political movements in the state of the kind seen in other states to translate the numerical majority of the countryside into political power in the state legislature. This is primarily the result of the state's socio-economic structures, and how post-independence politics served to concentrate power within a primarily urban political class located in the coastal districts of the state. Although close to half of the state's population are below the poverty line, no movements have emerged to steer government policy in a pro-poor direction, especially no state-wide movements linking the poor, the lower castes, and tribal populations from the coastal and hill regions of the state. The nature of social fragmentation along caste and tribal lines might play some part in explaining this absence. Privatization of public enterprises—in this case the public electricity utility—was therefore allowed to proceed in the absence of resistance from those communities—rural and poor—who would be most negatively impacted. Among the handful of existing analyses provide explanations for Orissa's privatization program, some note the low

levels of electricity consumed by the farm sector as an important factor.[88] Here I account for why Orissa's farmers were less reliant on electricity than those in other parts of India.

I also suggest that in analyzing the political economic context surrounding Orissa's decision to privatize, it is important to consider not just the low agricultural consumption but the huge potential for industrialization in Orissa. The existence of significant coal, bauxite, and iron ore among other resources in Orissa held out to its political leaders the promise of rapid industrialization through natural resource extraction. The politician who initiated Orissa's privatization program, Biju Patnaik, had a history as a champion of industrialization that stretched right back to the nationalist period, when he himself was briefly among the state's leading industrialists. Patnaik's rise to political power in the 1990s coincided with larger shifts in government policy that opened up industrial production to the private sector, making the kind of industrialization he had long envisioned viable, not through the public sector as he had earlier imagined, but through private capital. In contrast to the period of the 1990s when the machinery of the state was applied in earnest to the task of industrialization, in earlier periods the industrializing agenda of political leaders was thwarted, first under British colonial governance and after independence, due to Orissa's weak bargaining position vis-à-vis other states in India's federal system.

[88] Navroz K. Dubash and Sudhir Chella Rajan, "Power Politics: Process of Power Sector Reform in India" *Economic and Political Weekly* (September 1, 2001): 3367-3390 suggests that Orissa privatized because the state had no rural opposition and its chief minister believed the state utility would be imminently bankrupt. One government perspective, articulated in D.V. Ramana, Banikanta Mishra, and Birendra K. Nayak, "Power Sector Reform in Orissa: A Case Study of Restructuring" in *Orissa Development Report* (New Delhi: Government of India, Planning Commission, 2001), 376-408, points to the poor performance of OSEB as the main cause of the reform program. A second government perspective, contained in "Report of the Committee on Power Sector Reform of Orissa" (Bhubaneshwar, Orissa: Government of Orissa, October 2001), also proposes that the primary reason for the reforms was OSEB's inadequacy, but further suggests that the shape of the program was guided by World Bank plans.

The argument that follows examines the leading faction of the state's political elite to delineate the developmental vision of Orissa's political class, one that envisaged industrialization through Orissa's mining and mineral resources. Some studies within the literature on the political economy of reform—both scholarly and journalistic—examine state-level variables, as opposed to external pressures. Often such work references the elusive "political will to reform." This study attempts to account for the presence of such a will in the poor state of Orissa. I situate the events of the 1990s in a longer political economic history, of which economic liberalization is merely the most recent chapter.

In the case of Orissa, electricity sector privatization was the outcome of a confluence of factors: a driving belief in industrialization within the state's political elite, coupled with a lack of political pressure from the rural sector and the ascendancy of a new global model that promoted private sector-led development, particularly in the energy sector. The case shows that explaining privatization as the product of external pressures (from the World Bank or the central government) is insufficient, given that this pressure is sometimes applied to little effect, as in other Indian states. State-level political economic variables comprise the structural conditions that allow such external pressures to find their mark.

Two Orissas: the Coastal Plains and the Inland Hills

Orissa is not unique in having stark differences among its various geographic regions. Differences between regions in India's states can be categorized in a number of

ways. Sub-regions can have different political histories. The majority of Indian states comprise both lands that were formerly governed by indigenous rulers, called princely states, as well as ex-British territories. The integration of regions with such disparate pasts into single, unified states has been difficult in many instances and has had varying degrees of success.[89] Sub-regions can also differ according to linguistic communities. Many of these differences got sorted out by the States Reorganization Act of 1956, which rationalized the chaotic administrative divisions of the British Empire to approximate linguistic homogeneity within each state. Regions can also have very distinct social profiles; for example, caste and community hierarchies are distinct in each region and sub-region of India. Sub-regions within modern Indian states also differ according to their economies, due to differences in physical attributes that favor some kinds of economic activities over others, and to the legacies of differing political economic institutions, like agrarian property rights.

The two regions of Orissa—the coastal plains and the inland hills—are starkly different along most of these dimensions. And integration within the single state of Orissa for the last fifty years has not successfully erased or even attenuated these differences. If anything, the existence of a single political apparatus has thrown into relief the economic, political, and social domination of the people of the coastal plains over those of the inland hills.[90]

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[89] John R. Wood, 1984, "British versus Princely Legacies and the Political Integration of Gujarat," *Journal of Asian Studies*, Vol. 44, No. 1 (November): 65-99.

[90] Manoranjan Mohanty, "Class, Caste and Dominance in a Backward State: Orissa" in Dominance and State Power in Modern India, Volume 2, ed. Francine R. Frankel and M.S.A. Rao (Delhi, New York: Oxford, 1989), 321-366.

The language spoken by the majority of Orissa's approximately 36.8 million residents is Oriya, although the language has numerous regional dialects. Of the total

Map 2. District map of Orissa, 2001
Source: Office of the Registrar General, India
Copyright: Public domain

population, 16.5 percent is part of the Scheduled Castes, and 22.1 percent is from the Scheduled Tribes, giving Orissa the highest total concentration of these two historically marginalized communities among India's major states.[91] The coastal districts have a relatively smaller percentage of SC and ST residents compared to the inland districts. For example, in the coastal districts of Puri and Cuttack, SCs and STs comprise 19.1 and 23.7 percent of the populations respectively. In the inland districts of Mayurbhanj in the

[91] The following demographic data are drawn from *Census of India 2001*, "Table 00-005: Total Population, Population of Scheduled Castes and Scheduled Tribes and their proportions to the total population" (New Delhi: Government of India, 2001). Article 46 of the Indian Constitution enjoins the Indian state to provide special protections for the educational and economic interests of the Scheduled Castes (SCs), or former ex-untouchables; and Scheduled Tribes (STs), also called *adivasis*, or indigenous people.

north, Sambalpur in the west, and Koraput in the south, SCs and STs make up 64.9, 44.9, and 69.3 of the populations respectively.[92]

In addition to the differences in social composition of the two regions, there are physical differences that continue to impact the kinds of economic activities practiced in each region. Whereas a more traditional sedentary agriculture is dominant in the fertile coastal plains, in much of the inland districts villagers still practice a kind of slash and burn agriculture, and additionally rely on resources from the forest itself. Orissa has abundant mineral and mining wealth; the state hosts 98% of the country's chromite reserves, 35% of nickel, 23% of manganese, 23% of dolomite, 24% of coal, and 22% of iron ore.[93] These resources are concentrated in the inland districts, which is also the case in many other hilly parts of India that are inhabited by scheduled tribes.[94]

Orissa's most important natural resources are coal and bauxite. Bauxite, primarily used in the production of alumina, has been found in the inland districts of Bolangir, Sambalpur, and Kalahandi, all in the western hills.[95] Currently, the bulk of the bauxite is mined in Korpaut, another inland district, by NALCO, the National Aluminum Company Limited, which is owned by the central government and is India's—and one of the world's—largest exporter of bauxite. Orissa and the state of Bihar in northern India have more than half of all of India's coal reserves. Orissa has 47.9 billion tons of proven

[92] B.N. Sinha *Geography of Orissa*, 3rd edition, (New Delhi: National Book Trust, India, 1999), 182.
[93] S.N. Johri, "Nalco's role in Orissa's Development" in *Reference Orissa: An Indian State of Eastern Region* (New Delhi: Enterprising Publishers, 2000), 342-346.
[94] Jharkand, which was carved out of Bihar and made a separate state in 2000, is one such example. It is wealthy in natural resources and heavily populated by scheduled tribes.
[95] B.K. Mohanty, "Mineral Development Prospects" in *Reference Orissa: An Indian State of Eastern Region* (New Delhi: Enterprising Publishers, 2000) 453-458.

coal reserves, which amounts to 23% of all of India's coal wealth, whereas Bihar has 67.8 billion tons, or 33% of the total.[96]

The coastal areas of Orissa (primarily the original districts of Puri, Cuttack, and Balasore that were further divided into smaller districts in 1993) were a part of the British territories, as were a few districts in southern Orissa (Koraput and Ganjam). These regions consist of very fertile agricultural lands which further benefited from early irrigation infrastructure. A private British company constructed Orissa's first canal system in the early 1860s. This was augmented by the British administration in the early 1900s, spurred by a famine in 1865-66, giving agricultural production some degree of freedom from the vicissitudes of the monsoon.[97]

The modern political differences between coastal and inland Orissa have their roots in the late-colonial period, when the elites of the two regions had very different engagements with the national independence movement. In the 1910s and 1920s, leaders from the British regions first were politicized through a movement called the Utkal Sammilani that demanded the unification of all Oriya-speaking areas, spanning British and princely regions.[98] Most of its leaders—men like Madhusudan Das, Gopabandhu Das, and Gopabandhu Chaudhury—came from the southern coastal areas ruled by the British, and were of upper caste backgrounds.[99] Rank-and-file support for the Utkal

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[96] U.K. Mohanty, "Potential for Coal Mining" in *Reference Orissa: An Indian State of Eastern Region* (New Delhi: Enterprising Publishers, 2000) 459-466.
[97] Sinha, *Geography of Orissa*. One chapter deals with irrigation (pages 122-143).
[98] Surya Narayan Misra, *Party Politics and Electoral Choice in an Indian State* (Delhi: Ajanta, 1989), 42-44.
[99] B.B. Jena "Political Parties in Orissa" in *State Politics in India* ed. Iqbal Narain (Meerut: Meenakshi Prakashan, 1965), 485-502.

Sammilani came mainly from the middle classes in coastal Orissa. Typical of Anderson's "creole nationalists," the elites of British Orissa parleyed English-language educational opportunities into employment in the British administrative services.[100] Although initially theirs was a regional cause, they were later well-integrated with the national independence movement of the Congress party. Along with elites from other regions of India, they pushed the national Congress leadership in 1920 to accept linguistic identity as the organizing principle of states within the new nation.[101] With this, the fortunes and activities of the regional movement were more directly tied to those of the national movement.

The remainder of Oriya-speaking territory was governed by myriad princely states. The princes served as intermediaries through whom the British collected taxes, which was in marked contrast to the practice of direct taxation in the coastal regions.[102] Relations between the princely rulers and British crown were at times antagonistic but during the nationalist period, the princes often cooperated with the British to suppress political dissent.[103] During the late colonial period, the Congress movement helped to

[100] Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verson, 1983).
[101] This was part of the Congress resolution adopted in 1920 in Nagpur and laid the groundwork for the linguistic federalism that followed independence, in which new states were created to unite linguistic communities.
[102] Mohanty, "Class, Caste and Dominance," 320. The British inherited the system of treating the coastal and inland areas in two distinct manners from the Mughal emperors. However, whereas under the Mughals, the princes were treated as zamindars that had the right to collect rent in an estate, the British vested them with proprietorship, which changed the relations between the princes and the villagers in their territories. For a discussion of how British policy transformed rural land relations, see also, Ramakanta Rath, *The Law of Zamindari Abolitiion* (Cuttack, Orissa: Lark Books, 1965), 19-20. The book by Rath provides the text of the law and commentary by him, and was written as a kind of field manual for officials tasked with enforcing the law.
[103] Biswamoy Pati, *Resisting Domination: Peasants, Tribals and the National Movement in Orissa: 1920-1950* (New Delhi: Manohar, 1993), 62-69 documents the rajas complicity with the British during the non-cooperation movement of 1920-22.

establish ancillary organizations, called Praja Mandals, in each of these feudatory states to inculcate nationalist sentiments there. The leaders of these cells mostly hailed from the middle-classes that had migrated from the coastal areas to the inland areas to seek expanded administrative opportunities.[104] This means that at a critical moment in the nationalist era, the Congress party failed to incorporate the royal families of these princely states, choosing instead to ally with an immigrant elite. The effect of this was to consolidate the locus of political power in the post-independence Congress party with the coastal elites rather than sharing party power between the elites of two regions. The numerical superiority of the coastal districts over the inland districts ensured that in the representative framework of independent India, Congress remained the strongest party in the state.

The lack of political cooperation between the Congress party and the erstwhile princes continued through independence. In the 1946 elections, one year before independence, the Congress won an overwhelming majority. Rather than give ministerial posts to any princely leaders, two members of the Praja Mandals were given positions.[105] In 1948 after the creation of Orissa, two ex-princes, Singh Deo and P.K. Deo, spearheaded the effort to form a new party. [106] The party, based among the former princely states in the inland regions, was named the Ganatantra Parishad (GP). The party's success in subsequent state elections was due largely to the feudal ties that continued to bind tribal and lower caste populations of the former princely estates to their

[104] Mohanty, "Class, Caste and Dominance," 348.
[105] Jena, "Political Parties in Orissa," 486.
[106] Misra, *Party Politics and Electoral Choice*, 47-49.

erstwhile lords. The existing historical, social, and economic differences between the coastal and inland areas were also useful to these feudal elites in consolidating their position as legitimate rulers. They could articulate a set of distinct interests for inland Orissa, and claim that the Congress party's domination by coastal elites rendered that party an ineffective representative organ for non-coastal citizens.[107]

Following independence the coastal areas were merged with twenty-four of the twenty-six Oriya-speaking princely states that covered the northern and northwestern parts of modern Orissa. In the three elections to the legislative assembly of unified Orissa, held in 1952, 1957, and 1961, the electoral contest was a bipolar one between the Congress party and the GP. While each party contested seats in both coastal and hilly districts, the election results demonstrate that the GP's base was in the hills while the Congress dominated in the coastal districts.[108] Although both parties were dominated by upper castes, the economic profiles of the two parties' members differed. In the 1957 election, of the members of the legislative assembly from the GP party, the two largest socioeconomic groups were ex-princes or zamindars (20%) and cultivators (20%), but almost no businessmen.[109] The membership of the Jana Congress and the Utkal Congress, two major offshoots of the Congress party in Orissa based in coastal Orissa, included landowners as well as professional politicians, administrators, and businessmen. In the case of the Jana Congress for example, the overwhelming majority (64%) of legislators were upper castes; 44% were social or political workers, 16% were ex-

[107] Kishalay Banerjee, *Regional Political Parties in India* (Delhi: B.R. Publishing, 1984), 70-72.
[108] Banerjee, *Regional Political Parties*, 201 (Table 7.10).
[109] Banerjee, *Regional Political Parties*, 297.

zamindars, and none were cultivators.[110] Of the Utkal Congress MLAs in 1974, 34% were cultivators, 20% were businessmen, and 14% were school teachers.[111]

Orissa was among the earliest states to enact land reforms when the government passed the Orissa Estates Abolition Act of 1951. However, the implementation of this legislation, and a later piece that placed upper limits on land ownership called the Orissa Land Reforms Act of 1960, however, was not uniform across the state. The large estates in coastal areas were abolished for the most part, whereas the large estates of inland Orissa were left intact.[112] Both of the above-mentioned acts had explicit provisions that served as loopholes for land landholders. In the case of the earlier act, although the preamble states that the act "extends to the whole of the State of Orissa" and that "it shall come into force at once," for an estate to become vested, that is revert to state ownership, the state government had to issue a notification.[113] Requiring an act of government for the legislation to take effect created possibilities for delays or selective implementation of the legislation.

The 1960 legislation to eliminate large landholdings also contains important exceptions to the law. In this case, the government exempted "efficiently managed farms, orchards or plantations situated in compact blocks in which heavy investments or permanent structural improvements have been made and whose break up is likely to lead

[110] Banerjee, *Regional Political Parties*, 302-303.
[111] Banerjee, *Regional Political Parties*, 311.
[112] Mohanty, "Caste, Class and Dominance," 340-342.
[113] Government of Orissa, "The Orissa Estates Abolition Act, 1951 (Orissa Act 1 of 1952)," Chapters 1 and 2.

to a fall in agricultural or industrial production."[114] A later study of the effects of this act determined that close to 90% of the cases that were prosecuted under this legislation came from the four coastal districts of Puri, Cuttack, Balasore, and Ganjam, again suggesting that the large estates in inland areas were spared.[115] The result of this was a greater fragmentation of estates in coastal areas and a progressive weakening of rural interests there.

As Januzzi argues, one important reason for the differential implementation of the law was the lack of clear historical records of land ownership. Although this situation obtained across India, the problem was particularly severe in the eastern regions (including Bihar, West Bengal, and Orissa), and ex-princely states where the zamindaris and landholders themselves held the only records of land ownership and tenancy.[116]

Although smaller socialist and communist parties were active in Orisas, these were concentrated in the coastal areas. In contrast to West Bengal to the north, no political movements of rural poor emerged in Orissa. Partly this was the product of how caste and class interacted in the state. The largest peasant caste in Orissa, or backward caste, are the *Khandayat*s.[117] In the absence of political mobilization by communist or socialist parties, arguably, this community would have been the most likely base from

[114] Government of Orissa, "The Orissa Land Reforms Act, 1960" (Orissa Act 16 of 1960)," Chapter 14, Section 38.
[115] Suresh Chandra Mallick, 1985. "Impact of Tenancy Legislation on Agricultural Productivity in Orissa" *Journal of Rural Development* (Hyderabad), Vol. 4, No. 1: 128-161.
[116] F. Tomasson Jannuzi, *India's Persistent Dilemma: The Political Economy of Agrarian Reform* (New Delhi: Orient Longman, 1994), 70.
[117] The middle, peasant castes are officially referred to as Other Backward Castes. The 1931 Census, the last census to enumerate along caste lines, records that Khandayats made up roughly 10.29% of the state's population, as cited in Sanjay Kumar, "Janata Regionalized: Contrasting Bases of Electoral Support in Bihar and Orissa" in *Regional Reflections: Comparing Politics across India's States* ed. Rob Jenkins (New Delhi: Oxford, 2004), 111-138, (fn. 12).

which a broad-based, cross-caste, and pro-poor movement could have emerged. The analogs of the Khandayats in the states of Bihar and Maharashtra are the *Yadav* and *Maratha* caste clusters, respectively. In Orissa, however, wealthier Khandayats tended to identify upwards, with higher castes, in a form of *sanskritization* whereby as a community becomes more prosperous its members claim a higher status in the social and ritual hierarchy of caste.[118] Less well-off Khandayats invariably were lumped with lower caste groups. As Kumar proposes, the Khandayats were thus divided along class lines and therefore unlikely to emerge as the basis of a broad-based, backward caste revolution in Orissa like the ones that emerged in north India in the 1990s.[119]

In 1962, the GP merged with the Swatantra party, which was then the second largest party at the national level and had a profile as India's major conservative party, one opposed to the Congress's state intervention and land reforms policies. Swatantra represented a union of multiple species of Indian conservatism, including those coming from business, bureaucratic, and rural elite backgrounds. The incorporation of traditional rural elites was accomplished partly by way of co-opting regional associations of landed elites, of which the GP is a prime example.[120] In Orissa, the Swatantra and the Congress, whose leadership had by then changed hands to a younger generation of leaders, continued to be the two largest parties through the 1960s, each aligned at different moments with smaller parties formed by defectors from the Congress.

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[118] The term was coined by Indian sociologist M.N. Srinivas, see *Caste in Modern India, and other essays* (Bombay: Asia Publishing, 1964).
[119] Kumar, "Janata Regionalized," p. 115-116.
[120] Howard L. Erdman, "India's Swatantra Party" *Pacific Affairs*, Vol. 36, No. 4 (Winter, 1963-64): 394-410.

In 1970, the national government passed a constitutional amendment abolishing the hereditary and financial privileges (called "privy purses") of the ex-princes, privileges that had been granted by the Indian government as part of the accession agreements of the princely states to the new India union. With this, the Congress party at the center ensured the eventual dissolution of princely political formations, and what had been a fairly sharp political split between coastal and inland Orissa began to fade.[121] The election held in 1974 was the last in which the Swatantra Party made a strong showing. In the three elections prior to the GP's merger with Swatantra (held in 1951, 1957, and 1961), the party secured between twenty and twenty-nine percent of the total vote. As Swatantra, the conservative base in Orissa garnered 22.6% of the vote in the 1967 state assembly election, 17.4% in 1971, and only 12.1% in the 1974 election, the last in which it contested.[122]

Although in the early decades inland Orissa was dominated by the GP—the party of the ex-princes—the new SC and ST politicians that emerged in these areas, due largely to reservations, found their home in the Congress party.[123] This continued in subsequent decades. In the seven state elections from 1971 to 1995, twenty-two seats were reserved for SC candidates, and between thirty-three and thirty-four for ST candidates in an

[121] Mohanty, "Class, Caste and Dominance," 340.
[122] Election Commission of India, "Statistical Report on the General Elections to the Legislative Assembly of Orissa," various years (New Delhi: Government of India).
[123] Part of the special protections that the Indian Constitution accords to SC and ST communities are reserved electorates at the national and state levels. The number of constituencies that are reserved, that is from which only members of either SC or ST communities can stand for election, is proportional to the population of these communities.

assembly of between 140 and 147 members.[124] Reserved seats comprised between thirty-eight and forty percent of the total. Although the ST members of the assembly constitute the largest social group in the legislature, neither they nor the SC members form a cohesive political lobby in the assembly, instead always occupying a subordinate position to upper caste leaders within the mainstream political parties, primarily the Congress.[125] The subordination of the leaders from poor and historically marginalized communities within the Congress apparatus also explains why no broad-based, pro-poor political movement emerged in Orissa.

The possibilities for industrial development

Since the colonial period political leaders of coastal Orissas had a vision of industrializing the state, one that was stymied by different factors under different political regimes. In the colonial period, British policies reduced levels of industrialization all over India, and Orissa was no exception. In the postcolonial period, Orissa found itself in a weak bargaining position in India's federal system. Central investments, key to development during these decades of capital scarcity and in an industrial policy climate that limited the potential of private capital, were often directed at more politically influential states. The 1990s, however, brought a radical break with previous policy, opening up industrial sectors to both indigenous and multinational capital. The major obstacle to industrialization in Orissa in this period, however, was limited infrastructure.

[124] Election Commission of India, "Statistical Report on the General Elections to the Legislative Assembly of Orissa," various years (New Delhi: Government of India).
[125] Mohanty, "Class, Caste and Dominance," 347.

Privatization of electricity was willingly embraced by Orissa's political elites as a means of signaling that the state was committed to economic liberalization and committed to providing industry's basic infrastructure requirements—power and transport.

Since the early nationalist period, the political class in Orissa emphasized the potential for industrialization in the state. Madhusudan Das, the late nineteenth and early twentieth-century leader of the Utkal Sammilani, the movement to unify Oriya speaking areas that originated in British Orissa, requested the colonial government for funds to establish industries in British Orissa, which were denied.[126] One generation later, in the late colonial period, Gopandhu Das studied the economy of pre-British Orissa and was convinced that British colonial policy had de-industrialized Orissa, destroying what were once flourishing indigenous salt and textile industries. He lobbied the British, again unsuccessfully, to establish a Department of Industry and an engineering school to facilitate industrial growth in the state.[127] That these two men and those who inherited their political legacy came from among the urban middle classes of British India is no accident. Their beliefs were shaped by their position as English-speaking functionaries in the British administration; their understanding of economic development came from their familiarity with British and European trajectories of economic growth and industrialization.[128]

After Independence the Congress party continued to draw support from the urban middle classes and affluent peasants in coastal Orissa. In 1971, a large contingent of

[126] Radhakanta Barik, "Gopabandhu and the National Movement in Orissa" *Social Scientist* (New Delhi) Vol. 6, No. 7 (May 1978): 40-52.
[127] Barik, "Gopabandhu".
[128] Barik, "Gopabandhu" 41-42, makes this argument with respect to the political elites of the nationalist period in Orissa specifically.

Congress leaders defected to form another party. This party, initially called the Utkal Congress, joined the broad-based coalition that opposed Indira Gandhi's emergency rule from 1975-1977, changing its name first to the Janata Party and later to the Janata Dal. The leader of Janata Dal in Orissa was a charismatic politician named Biju Patnaik, who had entered politics during the nationalist period, using his skills as a pilot to the benefit of the nationalist movement and working within the fold of the broad-based Indian National Congress. Very much in the mold of Jawaharlal Nehru, Patnaik had a vision of Orissa's development that focused on large-scale industrialization with an emphasis on science and technology education. He believed that Orissa would only emerge from the ranks of India's poorest states by taking advantage of its abundant natural resource wealth. Patnaik first undertook to industrialize the state as a private entrepreneur in pre-Independence India; his firm, B. Patnaik & Co. was Orissa's first private limited company, founded in 1944.[129] After several years of building an industrial house based in Orissa comprised primarily of textiles and steel, Patnaik entered politics and gradually relinquished his industrial holdings.[130]

One biography recalls that Patnaik often said that "business and politics were the two sides of the same profession," suggesting that the shift from one to the other was a natural one for him.[131] Other interpretations suggest that Patnaik turned to politics after realizing that the emergence of a regional bourgeoisie, something he hoped his own entrepreneurial activities would spearhead, would be delayed in the case of Orissa for two

[129] Bhaskar Parichha, *Biju Patnaik* (Delhi: Har-anand, 1995), 62-63.
[130] The most prominent of the companies he founded, the Kalinga Iron Works, was taken over by the Industrial Development Corporation of Orissa in April, 1963.
[131] Parichha, *Biju Patnaik*, 47.

reasons. First agricultural activity in the state did not yield a surplus, critical to the development of such an industrial bourgeoisie in other Indian states.[132] Secondly, the state lacked the requisite communications, energy, transport, and educational infrastructure to entice substantial investment. Patnaik's vision for the development of Orissa—one alert to these lacunae—is summed up in the following statement:

> Produce more power from water and coal, take it to villages, set up suitable industries at every stage, the village, the group of villages and the region and organize technical schools not in isolation but as integral parts of the industrial fabric on the one hand and the educational stream on the other. Improvements in transport and communication and other items of economic and social overheads will of course have to be dovetailed into the above patterns.[133]

In the absence of a regional capitalist class, Patnaik thought of the state as the most promising vehicle for investment. Patnaik spent his early political career firmly entrenched in state-level affairs to advance the agenda of state-led industrialization, first serving as chief minister from 1961 to 1963 while still a Congress politician. He was not able to serve a full term then due to national-level political developments.[134]

Until 1970, he was closely allied both ideologically and strategically to the Congress Party at the center, led by Nehru for the bulk of that time. He was a proponent

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[132] Jugal K. Mishra attributes this realization to Patnaik in "Biju Patnaik: the Yogi of Orissan Development" in *Legendary Biju: The Man and the Mission*, ed. K.P. Mohanty (New Delhi: Kaveri, 2002). The argument that an agricultural surplus is essential to the emergence of a regional bourgeoisie is not unique. In the Indian context, see Sanjaya Baru, "Economic Policy and the Development of Capitalism in India: the role of regional capitalists and political parties" in *Transforming India: Social and Political Dynamics of Democracy* ed. Francine R. Frankel, Zoya Hasan, Rajeev Bhargava, and Balveer Arora (New Delhi, Oxford, 2000), 207-230.

[133] Biju Patnaik, Orissa Legislative Assembly Proceedings, March 1, 1963. Cited in Mishra, "Biju Patnaik," 146.

[134] Biju Patnaik was one of a handful of chief ministers and prominent regional Congressmen who, under a plan promoted by Prime Minister Jawaharlal Nehru, vacated elected positions in the provinces and ministerial posts at the center to work instead for the party's organizational welfare. The plan came to be known as the "Kamaraj Plan" after one of the chief ministers (of then-Madras state) who resigned along with Patnaik. See Francine Frankel, 2005, *India's Political Economy: 1947-2004* (New Delhi: Oxford): 229.

of central planning and development led by a mix of public and private investments. As his earlier incarnation as an industrialist suggests, he was not idologically opposed to the private sector. Rather his support of central planning and public investment was strategic and pragmatic. Ironically, however, these strategies may partly explain why Orissa never developed according to Patnaik's vision, despite his influence in state politics and even occasionally at the national level.

Under India's central planning regime, investments were meant to be spread across the regions to secure balanced growth. This meant that Orissa's large natural resource wealth could not be exploited with the immediacy that the state's political elite imagined. Orissa frequently received even less than its fair share of investments, due to the political dynamics played out within India's federal structures. Many states in India complained of "step-motherly" treatment from the central government. Orissa was no exception. Responding to this inequity, at one point in his political career when his own allies were in power at the center, Patnaik theatrically threatened secession.[135] Within this framework of a dominant center and centralized planning, states that sent large contingents to parliament in Delhi exercised the greatest amount of influence over investment decisions. Orissa's relatively small population meant that the state accounted for a small number of members of parliament. The state could never wield the political clout of more populous states like Bihar, Uttar Pradesh, Maharashtra, or Tamil Nadu. Data on the state-wise per capita expenditures in India's central plans, for example, show that for most of India's five-year plans, per capita expenditures in Orissa were lower than

[135] Pabak Kanungo, "Biju Patnaik: A Profile" in *Legendary Biju: The Man and the Mission*, ed. K.P. Mohanty (New Delhi: Kaveri, 2002), 59-75.

those in the more politically influential states of Punjab, Maharashtra, Gujarat, Karnataka, and Tamil Nadu.[136]

During his first term as chief minister, Patnaik fought fraught political battles to secure central investments in Orissa. In 1962, Hindustan Aeronautics Ltd., the public sector company that was India's most significant producer of aviation equipment and engines, was selecting sites for new plants that would build Mig fighter planes in collaboration with the Soviet Union. Y.B. Chavan, the chief minister of Maharashtra, jostled with Patnaik, each hoping to draw the investment to his own state. Only after Patnaik threatened resignation did the central government decide to locate a new factory in the Koraput district in southern Orissa. Two other factories were built at the same time, one in Nasik and another in Lucknow, located respectively in Maharashtra and Uttar Pradesh, two far more populous and politically influential states.[137] After moving from state politics to the center, Patnaik continued to work towards channeling investments to his home state. As a cabinet minister in the two Janata national governments that followed Indira Gandhi's Emergency, first in the role of Minister for Steel and Mines from 1977 to 1979 and Minister for Steel, Mines, and Coal from July 1979 to January 1980.[138] As Union Minister, Biju Patnaik brokered a deal for the

[136] India Stat, "Selected State-wise per capita expenditure/outlays on plans in India (1951-1956 to 2002-2003). The India Stat table cites the Directorate of Economics and Statistics of the government of Uttar Pradesh as the source for these data.
[137] Parichha, *Biju Patnaik*, 67.
[138] D.C. Das, "Biju Patnaik: the Vision of a Patriot," *Orissa Review* (February-March) 2005: 54-58. The fact that Patnaik headed these two ministries suggests how important Orissa's mining and mineral resources were in Patnaik's vision of development.

construction of an aluminum plant—NACLO—the construction of which was begun in 1981 under a Congress government elected to Orissa in 1980.[139]

A feudal hold-out

The dreams of industrialization that so clearly captured the imagination of elites in the colonial period and of others, like Patnaik, in the post-Independence era, were not shared universally. In a study of the relationship of federalism to central planning in the Fourth Plan Period (1969-1974), we can read the ambivalence of elites from inland regions of Orissa towards large-scale industrialization.[140]

In 1965, during the Third Plan Period, the Indian government commissioned a private company to conduct a study of possible locations for new steel plants in the country. The company, M.N. Dastur and Co., was instructed to consider technical and economic factors in their analysis, including sourcing of raw materials like ore and coal, and access to major transport facilities. The company's report concluded that two sites in Orissa, one in the northwestern Sundargarh district and another in the central Nayagarh district, were the most suitable for the construction of large-scale integrated steel plants. One year earlier, in 1964, the governor of Orissa had submitted a study to the national government that also made a case for these two sites and one other in Orissa as being ideal for constructing new steel plants.

[139] Mohanty, "Class, Caste and Dominance," 356.
[140] Keshabananda Das, "Politics of Industrial Location: Indian Federalism and Development Decisions," *Economic and Political Weekly* Vol. 32, No. 51 (December 20, 1997): 3268-3274. The following chronology of events is drawn from Das's analysis.

By 1969 it was clear that the central government intended to initiate three new steel projects. In 1970 Indira Gandhi announced unexpectedly that three new plants would be built during the Fourth Plan Period, one each in the southern states of Andhra Pradesh, Tamil Nadu, and Karnataka. In making this announcement, she failed to mention the rationale for their selection or the logic of excluding Dastur's recommendations in Orissa. Das, who provides a careful account of this episode, blames party politics and the ad hoc nature of planning for this suboptimal outcome.[141] In 1970, Indira Gandhi was a fighting for supremacy against an opposition stronghold within her party, known as the Syndicate, and in pouring such huge investments in these three southern states she was guided by a logic of political survival. Some of the most dynamic leaders of the Syndicate like Kamaraj, Sanjiva Reddy, and Nijalingappa, came from the favored southern states, and by locating central investments in their home states, Indira was attempting to build alternative allies and undercut her opposition.

The southern governments also effectively lobbied for the investments. The chief minister of Tamil Nadu, Karunanidhi, threatened to reject the Fourth Plan entirely unless his state was given a steel plant.[142] In the state of Andhra Pradesh, there were widespread and occasionally violent popular demands for a new steel plant. In explaining why some government leaders lobbied for investments while the chief minister of Orissa claimed to be unaware of the new projects, Das focuses on politics at the center. As he argues, had

[141] Das, "Politics of Industrial Location," 3270-71.
[142] Rabi Ray, "Letter to the Editor," *The Samaj* (in Oriya), May 29, 1970, cited in Das, "Politics of Industrial Location," 3271.

the policy process been guided by very clear directives, then each state's chief minister would have known about the proposed investments.

What Das neglects, however, are the potential explanations for this non-event that come out of a reading of Orissa's political economy. The Orissa government from 1967 to 1971 was formed by a coalition of the Swatantra party, composed of feudal elites from the inland districts, and the Jana Congress. The chief minister was R.N. Singh Deo, an ex-maharaja (ex-prince), of Patna, a nineteenth-century kingdom that was located in the present-day district of Balangir in western Orissa.[143] The main electoral and political base of the coalition was in the west, the region most ideally suited for new steel projects. A new plant would have required the government to claim land from local landlords and villagers, causing the destruction of some villages in their entirety and certainly effecting a radical transformation of the environment in and around the proposed plant, which might have engendered popular protests.

In 1946, the then-British government started to construct the Hirakud Dam on one of the major rivers flowing through Orissa, the Mahanadi (literally "great river"). The dam was built in the inland Sambalpur district but the benefits of flood control would accrue primarily to the coastal residents. In the rhetoric of the agitations, the "Katkis," (a pejorative term used by Orissa's inland residents to describe the people of the coast derived from the name of the city Cuttack), were destroying the lives of the inland villagers for their own benefit. R.N. Singh Deo, at that time an emerging local leader, and other ex-princes were crucial supporters of the agitation, from which they gained

[143] B.C. Das, 1978, "Government and Politics in Orissa since Independence: A Bird's Eye View" *The Indian Political Science Review* Vol. 12, No. 2: 161-178.

significant popular support.[144] Whereas Singh and the others could have emphasized the irrigation benefits that would also flow from the dam and accrue to the villages in the area, instead they used the anti-dam protests to consolidate an inland political identity, one pitted against the powers of the coastal elites.

In light of this history, then it is not surprising that the same Singh Deo as chief minister in 1970, failed to press the central government for a steel plant in Orissa. Singh Deo publicly claimed ignorance of the proposed investments, which seems unlikely given that so many parliamentarians and legislators from Orissa, as well as the chief ministers of other states, had full knowledge of the plans. The author of this study, B.C. Das reads the Orissa government's failure to lobby the center for a steel plant in 1970 as "directly related to the ad hoc nature of decision-making process at the centre itself" rather than a strategic move by the chief minister to avoid a project that would more than likely alienate his political base.[145]

Eschewing industrialization, the Swatantra-Jana Congress coalition of the late-1960s enacted several pieces of legislation that favored the interests of landowners. The government eliminated land revenue requirement and reduced irrigation fees, both of which measures benefited larger landowners, particularly those with access to irrigation facilities, rather than smaller landholders or agricultural laborers.[146]

These policies were reversed, however, once the strength of the feudal elites declined in the mid-1970s. After that point, political power was almost entirely in the

[144] Banerjee, *Regional Political Parties*, 72-73.
[145] Das, "Politics of Industrial Location," 3272.
[146] Banerjee, *Regional Political Parties*, 271.

hands of an upper caste modernizing elite, ensuring that such an episode would not be repeated. At that time in other parts of the country, a new class of commercially-oriented farmers was rising to prominence in state-level politics following the Green Revolution. In Orissa, where the Green Revolution never firmly took hold, no new agriculturally-oriented elites emerged to contest the authority of the remaining political class, most of whom continued to be upper caste and have either professional or business backgrounds. From that time forward, the state government seemed firmly committed to large-scale industrial projects. Although there was a flourishing two party system for much of the period from the mid-70s to the mid 90s, there was bipartisan agreement on development policy. The pace of development, however, was restricted by Orissa's weak bargaining position in the federal system.

The Congress party led by J. B. Patnaik, ruled Orissa throughout the 1980s. During the 1980 election, when candidates in neighboring states, like Andhra Pradesh, were making populist promises of subsidized electricity for farmers and subsidized grain for consumers, J. B. Patnaik pledged to bring the state "1000 industries with 1000 crore in 1000 days." One of the biggest obstacles to the promised industrial growth, however, was a paralyzing lack of electrical power.[147] The central government had nominally approved the construction of a new thermal power plant during the 6th Five Year Plan, but the plan was never implemented. As a consequence, industrial growth in terms of the value added to the state's gross domestic product, slowly considerably during the 1980s relative to earlier decades.

[147] Manoranjan Mohanty, "Adrift Middle Class," *Economic and Political Weekly* Vol. 21, No. 33 (August 16, 1986): 1445-1446.

Table 8: Decadal Growth in Orissa's Industrial Sector (average % growth rate during the decade)

Period	Number of factories	Number of Employees	Value Added
1960s	3.61	5.98	23.45
1970s	4.25	2.05	21.05
1980s	2.6	3.22	16.38

Source: Vinod Vyasula and A. V. Arun Kumar, "Industrialisation in Orissa: Trends and Structure," *Economic and Political Weekly* Vo. 32, No. 22 (May 31, 1997): M46-M53.

The dismal growth rates of the industrial sector are also reflected in the sectoral composition of the net state domestic product. From 1987-88 to 1999-2000, whereas the percentage share of the primary sector in Orissa declined by 4.91% and the secondary sector share declined by 66.27%, the share of the tertiary sector increased by 22.62%. The share of Orissa's secondary sector declined more sharply than in any other state in India.[148]

Against the economic backdrop of industrial stagnation, continuing widespread poverty, and an inattention to agriculture, changes in the state's political party structure masked deeper continuities in the social composition of the state. The electoral field was dominated by two parties until 1967 (Congress and GP), by three parties in the 1971 and 1974 elections (Congress, the Congress offshoot Utkal Congress, and Swatanra), and by two again from 1977 to 1995 (Congress and Janata Dal). Throughout the last period, the Congress and the Janata Dal drew their electoral support and financial backing from the same social groups in the eastern part of the state.[149] Many of the ex-princes from the western districts joined the national Bharatiya Janata Party during the course of the

[148] Planning Commission, *Tenth Five Year Plan (2002-2007) Volume.3* (New Delhi: Government of India, 2002), p. 38.

[149] Kumar, "Janata Regionalized." As Kumar argues, the Janata Dal's profile as an upper caste party strongly contrasts with its backward caste identity elsewhere, particularly in Bihar. This analysis of the social bases of Congress and Janata Dal is also made in Mohanty, "Caste, Class and Dominance," 356.

1980s, and by the late 1990s, the Janata Dal—renamed the Biju Janata Dal after the doyen of the party died in 1997—contested elections jointly, and formed the government elected in 2004.

From its creation as an independent state to the present, the social composition of Orissa's political class has come primarily from the two dominant high castes—Brahmins and Karans (often translated as Writer caste), and from urban, professional and business backgrounds.

Table 9: Social Background of Orissa's Chief Ministers

Dates	Name of Chief Minister	Caste background	Social / Professional background, nationalist leader
1952-1957	Nabakrishna Choudhury	Karan	From landowning family, nationalist leader
1957-1961	H. K. Mahatab	Kshatriya (Rajput)	Founded the Oriya news daily, *Prajatantra*, nationalist leader
1961-1963	Biju Patnaik	Karan	Former industrialist; during nationalist period published Oriya edition of Bengali newspaper *Amrit Bazar Patrika*; published *Kalinga* from 1960-1967, nationalist leader,
1963-1965	Biren Mitra	Karan	Helped to publish news daily, *Janasakti*, nationalist leader
1965-1967	Sadasiba Tripathy	Brahmin	
1967-1971	R. N. Singh Deo	Kshatriya (Rajput)	Former prince of independent feudatory, Balangir-Patra; landowner
1971-1972	Biswanath Das	Brahmin	Lawyer
1972-1976	Nandini Satapathy	Brahmin	Owner of publishing company, Daily Newspapers of Orissa, starte Oriya daily, *Dharitri*, in 1974
1976-1977	Binayak Acharya	Brahmin	Teacher / Headmaster
1977-1980	Nilamani Routray		Editor of *Prajatantra*, Nationalist leader
1980-1989	J. B. Patnaik	Karan	Editor of editor of English-language *Eastern Daily* and Oriya *Prajatantra*; Founded Saraswati Press
1989-1990	Hemananda Biswal	Member of Scheduled Tribe	Teacher
1990-1995	Biju Patnaik	See above	See above
1995-1999	J. B. Patnaik	See above	See above
1999	Giridhar Gamang	Member of Scheduled Tribe	
1999-2000	Hemananda Biswal	See above	See above
2000-present	Naveen Patnaik	Karan	Son of Biju Patnaik

Source: R. P. Shastry, "History of Press in Orissa" *Orissa Reference Annual 2005* (Bhubaneshwar: Government of Orissa, 2005): 198-203; "Bio-data of Chief Ministers of Orissa" *Orissa Reference Annual 2004* (Bhubaneshwar: Government of Orissa, 2005); In most cases, caste identity can be imputed from last name.

During the nationalist period, many prominent leaders in Orissa and elsewhere started regional language presses as a way to stimulate and spread anti-colonial sentiment. Many

of the first generation of Orissa's political class, then, had direct experience in the printed public sphere, with backgrounds in journalism and publishing. The strong link between the political and publishing worlds continues to characterize present-day Orissa.[150] The table above lists the chief ministers of Orissa to the present along with their caste and professional backgrounds. In many other parts of India, the political strength of the countryside had always found a strong reflection in state elections. Starting in the late 1970s, the countryside's influence consolidates at the state-level and spreads even to India's central institutions. In 1952 only 22.5% of parliamentarians in India's lower house came from farming backgrounds; by 1989, this had increased to 40.4%.[151] These trends largely bypass Orissa. Although a more exhaustive study of the entire state legislative assembly is beyond the scope of this chapter, it would provide more substantial evidence for the proposition that the social composition of the Oriya state changed little over time.

Political-Economic Context for Privatization in Orissa

In elections that were held in 1990 in Orissa, Biju Patnaik, arguably the most influential leader in Orissa's postcolonial history, returned with an overwhelming majority to the chief ministerial office. In his second stint as chief minister Patnaik served a full five-year term. Not only was this a complete term, but it can be considered a more successful one in that he was able to steer development policy towards greater

[150] Robin Jeffrey
[151] Varshney, *Democracy, Development, and the Countryside*, 88-89.

industrialization. From his early belief in private entrepreneurship during the nationalist and independence periods, to a commitment to state-led development during the Nehru years, by 1990 Patnaik returned full-circle, frustrated that four decades of central planning had not benefited Orissa and newly energized by the possibilities of private capital.

1991 is often marked as the start of liberalization in India.[152] Following a foreign exchange crisis, India entered an agreement with the IMF in 1991. In that year, a number of policy measures were enacted to liberalize the trade and investment environments, chief among them increasing foreign ownership limits in certain sectors.[153] The electricity sector was among the earliest impacted by these changes, as Chapter 2 describes. The cumulative effect of these measures was to send a signal that India was open for business to both foreign and indigenous private companies, which responded with a raft of investment proposals.

Biju Patnaik's election campaign in 1989 consisted of three major planks. The first was for a new steel plant in the state, and the other two were to reduce farmers' loan

[152] A number of studies are devoted to dating and explaining the start of economic liberalization. Most recently, Atul Kohli, "Politics of Economic Growth in India, 1980-2005" (forthcoming, *Economic and Political Weekly*, 2006) contends that a significant shift in government policy occurred as early as 1980, under Indira Gandhi. Kohli describes the shift as a prioritization of productivity and growth over questions of distribution, and the new liberalizing policy as one modeled as a pro-business (rather than pro-market) strategy, intended to mimic the successes of East Asian economies.

[153] Ministry of Industry, Government of India "Statement of Industrial Policy, July 24, 1991." The first industrial policy was passed in 1948, as the Industrial Policy Resolution of 1948. This was updated in 1956, and periodically amended and emended (1973, 1977, 1980) before the most recent statement was released in 1991. The 1991 statement focuses on relaxing industrial licensing requirements, facilitating the entry of foreign investment and foreign technology, introducing competition to areas that were once the preserve of public sector firms, relaxing anti-trust policies through changes to the Monopolies and Restrictive Trade Practices Act (MRTP), and finally, taking measures to "unshackle the Indian industrial economy from the cobwebs of unnecessary bureaucratic control."

burdens and to confront corruption in the government and bureaucracy.[154] Politically, Biju Patnaik was initially in a strong position to carry out his election promises. His party had won the elections with an enormous majority. Out of the 147 seats in the state legislature, Janata Dal (JD) politicians won 129, easily displacing the Indian National Congress (INC) government that had held the executive branch previously.[155] The remaining seats were filled by independent politicians and members of the communist parties. The JD's victory was not so overwhelming, however, when judged by actual votes; 54% of the votes cast went to the JD, whereas its main opposition party, the INC, won roughly 30% of the votes but only ten seats.[156]

Analyses of the election suggest that Patnaik's personal charisma was responsible in large part for the Janata Dal's success, suggesting that his command over his own partymen would be considerable. One of Patnaik's fellow party-men stated "Biju-baba is the heart and soul of this government. The remaining could at best be termed ringside spectators."[157] That Patnaik held a similar view of his importance in the party and government became clear by the way he formed his government. In addition to occupying the chief minister's post, Patnaik also reserved for himself several other cabinet ministries; Patnaik held the home, general administration, industries, mining and geology, and planning and coordination positions. The list itself is suggestive of what Patnaik believed would be critical during his term—anything related to the industrial development of the state.

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[154] Ruben Banerjee, "Iron hand: Biju Patnaik asserts himself," *India Today*, April 15, 1990, 45, 48.
[155] Ruben Banerjee, "Clean sweep: Biju's charisma carries the day," *India Today* March 31, 1990, 57, 59.
[156] Election Commission of India, "Statistical Report on General Election, 1990 to the Legislative Assembly of Orissa" (New Delhi: Election Commission, 1990).
[157] "Clean sweep," *India Today*.

During a speech given early in his term, Patnaik expressed dissatisfaction that during the previous forty years Orissa had been able to neither "improve the relative position vis-à-vis other states in the matrix of economic development" nor change the "pattern of intersectoral contribution to the net domestic product over the years."[158] That is, Orissa remained an overwhelmingly agrarian state, and central planning had been unable to alter this. The share of the primary sector in the net state domestic product (NSDP) fell from 55.09% in the early 1980s, to 47.04% one decade later, and to 39.23% at the end of the 1990s.[159] Despite the shrinking economic contribution of agriculture, the population of the state continues to be overwhelmingly rural and tied to the land. This suggests that agricultural has suffered from a steady decline in productivity.

Between 1950-51 and 1988-89, the primary sector (including agriculture, forestry, and mining and quarrying) grew at an average annual rate of 2.25%, in contrast to the 4.13% growth of the secondary sector (including manufacturing, construction, and electricity) and the 3.5% growth of the tertiary sector (trade, hotels, transport, banking, real estate, public administration).[160] The tertiary sector—the engine of growth in the state—made up 30.5% of the NSDP in the early 1980s and expanded to 46.03% in the late 1990s. Relative to the rest of India, Orissa has extremely low levels of industrialization. In a ranking of the fifteen largest states in the country in 1986-87, Orissa occupied the fifteenth position in terms of the percentage of value added by its

[158] Biju Patnaik, remarks made to the Meeting of the National Development Council on June 18-19, 1990.
[159] Sakti Padhi, "Economic Growth, Structural Change and Workforce Characteristics" in *Orissa Development Report* (New Delhi: Government of India, Planning Commission, 2001), 71-106. Padhi's contribution is Chapter 3 of the report, and the data on sectoral composition of the GDP is from Table 3.4, 76.

[160] Padhi, "Economic Growth, Structural Change and Workforce Characteristics," Table 3.2, 74.

factory sector.[161] This was roughly the same position Orissa occupied in the preceding three decades.

Foreshadowing the radical turn that Orissa would make towards the private sector, in the same speech Patnaik also complained of "dilatory bureaucratic fetters which stifle initiative and growth."[162] And in a later interview, he condemned the inefficiencies of the public sector, which "employ five men where one is required."[163] He also betrayed an authoritarian streak, asserting that "no development is possible without human sacrifice. Be it Ashoka or Peter the Great, human lives perished but that is how their great empires flourished…So why do we shy away from paying a price for development?"[164] Patnaik's course of development has been followed assiduously by numerous successive governments in the state. Privatization of electricity, which is arguably the most significant economic input for any industrial activity, was a critical means of forging the path.

FDI in Orissa

The government of Biju Patnaik that came to power in 1991 in Orissa inherited a state with severely restricted investment capacity, an abundance of natural resource wealth, and a new central government policy meant to encourage private industrial

[161] Centre for Monitoring the Indian Economy, *Basic Statistics Relating to the Indian Economy*, Vol. 2: States, (Mumbai: CMIE, 1990 and 1991), cited in Keshab Das, "Industrialisation in Orissa: Structure, Policy and Prospects" in *Orissa Development Report* (New Delhi: Government of India, Planning Commission, 2001), 200-222. Das's contribution is Chapter 6 of the report.
[162] Biju Patnaik, remarks made to the Meeting of the National Development Council on June 18-19, 1990.
[163] Biju Patnaik, interviewed by Sabina Seghal, *Times of India*, June 13, 1993.
[164] Biju Patnaik, interviewed by Sabina Seghal, *Times of India*, June 13, 1993.

investments. Orissa thus emerged as an important destination of private investment interest, particularly for large-scale projects.

Table 10: Break down of Industrial Entrepreneurs Memoranda (IEMs) from 1991 to 1995, selected states

	IEMs filed 8/91-12/95	Total size of proposed investments (Rs. 100 million)	Ave. size of IEM (Rs. 100 million
Andhra Pradesh	1432	352910	246
Bihar	211	50660	240
Delhi	432	62530	145
Gujarat	3559	935420	263
Haryana	1530	157590	103
Karnataka	845	198550	235
Kerala	240	51190	213
Madhya Pradesh	1416	404430	286
Maharashtra	4374	873860	200
Orissa	**160**	**55800**	**349**
Punjab	1245	160690	129
Rajasthan	1298	227530	175
Tamil Nadu	2055	278290	135
Uttar Pradesh	2282	464230	203
West Bengal	906	149720	165

Source: For number and size of IEMs, Ministry of Commerce and Industry, Government of India, Annual Report 2001-2002, available via www.indiastat.com. Remaining column calculated by author.

While the total number and size of proposed investments was much larger in other states, particularly the more industrially advanced states, the average size of the proposed investment was largest in Orissa, as Table 10 above documents. The average size of all the investment proposals given in the table below is 205.8 billion rupees, whereas the average size of investments proposed in Orissa was 349 million rupees. As a percentage of the state's gross domestic product, these investment proposals were also far more significant in the poor state of Orissa than in other, more developed states.

Orissa's share in total investments in India also increased from the pre-reform period to the post-reform periods. The increase was even sharper in the heavy industries sector, which includes manufacture of non-metallic minerals, metals, metal products,

machinery, and transport equipment. Table 11 below gives the percentage of industrial investments for India's large states during the pre-reform and post-reform periods. The pre-reform period includes all industrial units in operation in 1993, so includes everything during the first four decades of centralized planning. The post-reform period includes investments made from 1992-1998.

Table 11: Industrial investment in Indian states before and after liberalization

State	All industrial investment – pre-reform share of national total (%)	All industrial investment – post-reform share of national total (%)	Investment in heavy industry – pre-reform share of national total (%)	Investment in heavy industry – post-reform share of national total (%)*
Andhra Pradesh	8.55	6.22	11.30	5.29 (-53%)
Assam	0.75	2.19	0.14	0.12 (-14%)
Bihar	6.09	3.74	12.24	7.33 (-40%)
Delhi	1.00	0.15	0.70	0.03 (-96%)
Gujarat	10.05	16.89	5.60	7.80 (39%)
Haryana	2.53	2.36	4.25	2.63 (-38%)
Karnataka	3.66	7.17	4.96	8.69 (75%)
Kerala	1.96	1.30	0.72	0.68 (-6%)
Madhya Pradesh	6.33	7.94	8.86	11.66 (32)
Maharashtra	18.11	13.44	16.42	14.98 (-9%)
Orissa	**4.67**	**5.96**	**7.12**	**11.85 (66%)**
Punjab	3.86	3.94	2.16	1.57 (-27%)
Rajasthan	3.89	3.71	3.30	4.02 (22%)
Tamil Nadu	8.48	8.71	5.27	9.46 (80%)
Uttar Pradesh	10.68	8.15	5.39	6.32 (17%)
West Bengal	7.30	5.64	10.16	5.59 (-45%)

Source: Sanjoy Chakravorty, "Industrial Location in post-reform India: patterns of inter-regional Divergence and Intra-regional convergence," *Journal of Development Studies*, Vol. 40, No. 2 (December 2003): 120-152.

* Figures in parentheses are the percent change in state's share from the first to the second time periods.

The share of investment in heavy industry as a portion of total heavy industrial investment in the country increased in six of the sixteen states given in Table 2. These can be divided into roughly two categories. In the first are Karnataka, Tamil Nadu, and Gujarat, which were all middle to high-income states in the pre-reform period with dynamic economies anchored by a significant urban zone (Bangalore in Karnataka,

Chennai in Tamil Nadu, and Ahemdhabad and Surat in Gujarat). Rajasthan, Madhya Pradesh, and Orissa—the three other states whose shares of investment increased—are all low-income states. Given these large initial differences between these two groups, the dynamics of growth are most likely different for each. Theories of agglomeration and the tendency for capital to "crowd-in" would predict investment to continue to flow to parts of the country that already had significant industrial activity, like the first category of states. Of the three states in the second category, Orissa's increase in investment (66%) was twice as large as the increase of Madhya Pradesh (32%), and three times as large as the increase in Rajasthan (22%).

In 1990 and 1991, Orissa's mineral and fossil fuel resources in particular were garnering international attention. One such investment possibility was a joint-venture project between the state government of Orissa and the Jindal group of industries, another prominent Indian industrial house. The joint-venture project was intended to fulfill an election promise.[165] After that plant failed to materialize, Orissa formed another joint venture, this time with UK-based Caparo Industries to build a steel plant at Duburi, in the Jaipur district.[166] The Indian public sector company, National Aluminum Company (NALCO), planned to build an export-oriented alumina refinery in tandem with Hydro Aluminum of Norway, to be located in the southern district of Koraput.[167] In the same district (where the bulk of the state's bauxite is found), two of India's leading private

[165] The first steel plant in Rourkela, Orissa was also the first public sector steel plant to be built by the Indian state under the company name Hindustan Steel Private Limited, which was later changed to the current name Steel Authority of India Limited (SAIL). Biju Patnaik promised that he would build a second steel plant for the state during his election campaign.
[166] Kunal Bose and Reuter, "Indian steel plant planned" *Financial Times*, January 5, 1993.
[167] Kunal Bose, "Indian alumina export project planned" *Financial Times*, October 15, 1992.

industrial houses, Indal (part of the Aditya Birla Group) and Tata Industries planned to build an alumina refinery.[168] Similarly, Orissa's chrome ore deposits,[169] discoveries of platinum,[170] and large reserves of granite[171] were also garnering international attention.

The sector that received the most private sector attention, however, was undoubtedly the electricity generation sector. Orissa's massive coal reserves were emerging in this period as the cornerstone of the Indian government's plans to augment generation capacity. The Central Electricity Authority had authored a plan to develop fourteen coastal thermal power plants, to be built and operated by the National Thermal Power Company (NTPC), whose history is discussed in Chapter Two. These were to be considerably larger than existing plants, to benefit from economies of scale.[172] NTPC planned to build the first five of these large-scale power projects all in South India, which, since these states are far away from the coal deposits in eastern and northern India, had come to rely on hydro power and were therefore dependent on the vagaries of the monsoon. Although Orissa was not selected as an early site for the new plants, (three of which would be in Tamil Nadu, and one each in Kerala and Karnataka), the bulk of the coal to fuel these plants would be taken from the coal fields in Talcher in southeastern

[168] Kunal Bose, "Indian companies link to build alumina plant" *Financial Times*, November 3, 1992.
[169] Kunal Bose, "Indians press for ban on chrome ore export" *Financial Times*, May 10, 1991.
[170] "Commodities at risk; Oil's poor relations" *The Economist*, September 1, 1990.
[171] Kunal Bose, "India aims to boost granite exports" *Financial Times*, August 31, 1990.
[172] Central Electricity Authority, "Report of the Committee to Recommend Next Higher Size of Coal Fired Thermal Power Stations" (New Delhi: Government of India, Ministry of Power, November 2003). This report discusses the findings of an earlier committee, the Advisory Group on Technology Development, housed within the Ministry of Irrigation and Power. This group submitted its first report in April 1986, was reconstituted in 1989 and completed an additional report in April 1990. They recommended increasing the average size of new power plants to 750 MW.

Orissa and from Ib Valley in northern Orissa.[173] There was even a tentative plan to export coal to France in exchange for joint-venture support from Charbonnage de France to Mahanadi Coalfields Ltd., the Orissa-based subsidiary of Coal India, the public sector company in charge of all coal mining in the country.[174]

In addition to the plans to export coal from Orissa, several other Indian and foreign firms, many of them American, initiated plans to build coal-fired power plants in the state. By the 1990s, the integration of India's transmission system was well-underway. This meant that technically, electricity could be generated where it made the most economic sense—close to coal mine pitheads and other fuel sources—and then efficiently carried to the industrial and urban load centers via high tension wires.

Southern Electric International (SEI) started negotiations with the Orissa government in 1991, kick-started by a visit from Chief Minister Biju Patnaik to the headquarters of SEI, a subsidiary of the Atlanta-based Southern Company.[175] SEI planned to build a Rs. 60 billion ($2.3 billion), power plant of 2,020 MW in the Ib Valley, one of Orissa's two major coal sites, located in the far northwestern districts of Jharsugada and Sundargarh.[176] The size and cost of the project, which the US company was to build, own, and operate, were unprecedented in Orissa. A preliminary memorandum of understanding (MoU) was signed between the vice-president of SEI and

[173] "South Indian coal-fired schemes cleared by Delhi" *FT Energy Newsletters – Power Asia*, January 14, 1991.
[174] International Coal Report, "India plans to export to France" *FT Energy Newsletters—International Coal Report*, June 26, 1992.
[175] "US group considers big coal BOT scheme in Ib Valley" *FT Energy Newsletters – Power Asia*, December 16, 1991.
[176] "US group win BOO deal in Orissa state" *FT Energy Newsletters – Power Asia*, February 10, 1992.

Prime Minister P.V. Narasimha Rao in December 1991.[177] A second US firm, Northeast Energy, planned to build a 500 MW plant located in the eastern Cuttack district, at a cost of Rs. 15 billion ($576.9 million).[178] In 1992, an American firm, International Contracting and Marketing Corporation, based in New York, was attempting to put together a consortium of US firms to build several power plants in India, among them a coal-based plant in Orissa. This was partly a product of the efforts of both the US and Indian governments to encourage American investments in the Indian energy sector. In June 1992, an Indian delegation traveled to the US to encourage potential investors; this visit was reciprocated later in the same month when USAID hosted a seminar in New Delhi for US power companies.[179] In the following year, AES Transpower, a relatively young US power company that was rapidly internationalizing its businesses, signed an MoU with the government of Orissa to build a 420 MW unit in Ib Valley.[180] By then, SEI's plans to build a megaplant in the same area had been discarded, and the government of Orissa through its electricity board, OSEB, was building a more modestly sized plant, consisting of two 210 MW units. In October 1993, Pioneer Energy Inc., a consortium of US firms including giant energy companies like Duke, signed an MoU to build a 250 MW plant also in Ib Valley.[181]

Like Orissa, other state governments were also hurriedly signing MoUs with private power companies, again mostly American ones. The most active were Tamil

[177] "US groups win BOO deal," *FT Energy Newsletters.*
[178] "US groups win BOO deal," *FT Energy Newsletters.*
[179] "More US groups join privatisation jamboree" *FT Energy Newsletters – Power Asia*, July 13, 1992.
[180] "AES supplants So. Electric in Ib Valley project" *FT Energy Newsletters – Power Asia*, January 18, 1993.
[181] "Orissa fields draw bucks from US groups" *FT Energy Newsletters – Power Asia*, October 25,1993.

Nadu, Andhra Pradesh, and Karnataka, all states that had huge future power demands due to the growth of the southern information technology hubs in Bangalore, Hyderabad, and Chennai (formerly Madras). Orissa was in a different position from these other states in that its biggest growth potential lay in the power sector itself. As mentioned earlier, the growing integration of the Indian electricity system through the expansion of high tension transmission lines that crossed state borders meant that Orissa could potentially serve as the power source for the economic growth of other states.

The central government's Power Grid Corporation was constructing the physical infrastructure of a national grid, which essential for power generated in Orissa to efficiently meet demand in other states. Several state-level institutions remained as obstacles to this plan however. Although the 1991 amendment to the Electricity Act of 1948 opened generation to the private sector, distribution and transmission were still in the public sector. From a monopoly, the system was transformed into a monopsony, one in which the sole buyer—the Orissa State Electricity Board—was an insolvent actor, saddled with debt, inefficiency, and electricity tariffs that were too low to cover the costs of either generating power in-house or purchasing from private companies. Even as the heads of foreign companies were busily signing memoranda to build power plants, they were expressing worries about "tardy payment flow" from the SEBs.[182]

Unlike other state governments, the government Orissa was quick to reassure private investors, resorting to a number of financial and political instruments. The Orissa

[182] "Siemens bids to build up stakes in power sector" *FT Energy Newsletters – Power Asia*, March 9, 1992.

government's first response was to provide a governmental counter-guarantee.[183] The government also agreed that private companies could provide power directly to industrial consumers with governmental permission.

In the negotiations with AES, the Orissa government took a further step. After first signing a counter guarantee, the government later signed an additional tripartite agreement with AES and the central government, which guaranteed that if the company's invoice was not paid, the amount would be deducted form planned assistance from the central government.[184] The central government itself then signed a counter-guarantee. In May 1993, OSEB signed a thirty-year power purchase agreement (PPA) with AES, the first such agreement in India.[185] Between the PPA and the initial financing arrangements for the deal, it was clear that the government of Orissa and the Indian government were willing to shoulder considerable burdens to ensure the success of what was at the time the largest private investment in the energy sector.[186]

The government of Orissa also took the unusual step of increasing electricity tariffs at a time when most other state governments were reducing or eliminating them.[187]

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[183] "Orissa yields on private sector payment guarantees" *FT Energy Newsletters – Power Asia*, November 30, 1992. Orissa was the first to provide such a guarantee, although the practice became more common in later years.

[184] "AES supplants So. Electric in Ib Valley project" *FT Energy Newsletters*.

[185] "Financial Close nearly set for AES Ib Valley scheme" *FT Energy Newsletters – Power Asia*, September 19, 1994. PPAs were routinely negotiated by multinational power companies, particularly for their projects in developing countries. They are useful as a way of allocating risk; in the case of the deal signed by Enron in Maharashtra and AES in Orissa, some argue that the risk was shifted entirely to the governments, thereby jeopardizing the longer-term prospects of the projects.

[186] The financing structure allowed a 3.2 to 1 debt to equity ratio, higher than the norm at the time. The equity contribution between the Orissa Power Generation Corporation (OPGC) and AES was $50 and $80 million respectively. Furthermore, although the US Exim Bank was providing a loan to cover 85% of the cost of US goods and services, four Indian public sector banks provided a guarantee for this loan, which shifted the risk to Indian institutions. See "Financial Close nearly set for AES Ib Valley scheme" *FT Energy Newsletters.*

[187] "DESU slams in rate rises" *FT Energy Newsletters – Power Asia*, September 13, 1993.

And in late 1993, the Orissa government declared that it would abandon all new generating projects.[188] It also first began negotiating with a private company, Calcutta Electricity Supply Corporation (CESC), to take over distribution services. CESC was one of a handful of existing Indian private utilities, serving Calcutta.

The World Bank in Orissa

It was against this backdrop of ongoing negotiations for foreign investment that the World Bank was negotiating with the Orissa government to fund the Upper Indravati hydroelectric project. The project, which was to serve the needs of electricity generation and irrigation, had a decade and a half of prior history. It was first approved by the Orissa government in 1979, and initially received World Bank funding in June 1983. The project suffered several delays throughout the 1980s, in 1991 due to floods, and again in 1992, when a coffer dam built by one of the project's contractors burst. In 1991, the Orissa government agreed at the Bank's behest to reorganize the Upper Indravati project, The Bank suspended its loan for the project in December 1991, in anticipation of the imminent reorganization. Power sector reforms were a pre-condition to continued funding for the Upper Indravati initially.[189] However, because of delays to the power sector reform project (because these required legislative and institutional changes), the Bank's own documentation states that the two were technically unrelated.[190]

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[188] Power Asia, "Orissa tries privatisation" *FT Energy Newsletters – Power Asia*, November 22, 1993.
[189] "OSEB gets set to restructure" *FT Energy Newsletters – Power Asia*, October 31, 1994.
[190] Energy and Infrastructure Operations Division, Country Department II, South Asia Region, "Staff Appraisal Report, India: Orissa Power Sector Restructuring Project" (New Delhi: The World Bank, 1996), 12-13. (Hereafter referred to as World Bank, SAR: Orissa.) Much of the following narrative about Orissa's reform program is drawn from this lengthy report and another produced by the government of

In the early 1990s, the World Bank had re-evaluated its lending policies in the energy sector, deciding to "lend only to states that agreed to totally unbundle their electricity boards [separating them into discrete generation, distribution, and transmission entities], privatize distribution, and facilitate environmental reform and the private sector's involvement in power generation."[191] From 1993 to 1996, the bank withdrew over $2 billion in non-performing loans to entities in the energy sector throughout India, and did not make any new energy sector loans.[192] From that point on, all of the Bank's energy and finance in India was directed toward restructuring SEBs, which it started to implement with loans between 1996 and 1999, of which Orissa was the first recipient.

Biju Patnaik formally conveyed the Orissa government's commitment to power sector reform in a letter to the Bank in November 1993. The first step of the reform project included improving the financial and operational performance of OSEB, underwritten by a Bank loan initially granted in 1993, extended twice, and ultimately used in 1994 and 1995. This first loan was also used to establish the reform program, hire consultants, and solicit funds from other bilateral and multilateral agencies, including the Asian Development Bank and the UK's Department for International Development.

In order to carry out the Bank's restructuring vision, the Orissa legislature had to pass a new law. The legislation dismantled the OSEB; created an independent electricity

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Orissa: Report of the Committee on Power Sector Reform of Orissa" (Bhubaneshwar, Orissa: Government of Orissa, October 2001). The World Bank's document sets out the aims of the project and how it is to be operationalized, while the latter is an assessment of the program two years after privatization was completed.

[191] World Bank Operations Evaluation Department, "Reforming India's Energy Sector (1978-99)" *Precis* No. 206 (Spring 2001), 2.

[192] World Bank Operations Evaluation Department, "India: The Challenges of Development, Overview of Sectoral Assistance Evaluations" OED India CAE Working Paper Series No. 16 (Washington D.C.: The World Bank, 2002), 63-68.

regulator; guaranteed that tariffs would be set on commercial terms, to cover the cost of supply and yield a profit; and privatized transmission and distribution functions.[193] The law was passed by the assembly in 1995 and ratified in January 1996, after an intervening election in 1995 returned the rival Congress party to power. The new chief minister was a man named J.B. Patnaik (no relation to Biju Patnaik), who had been chief minister for much of the 1980s. Although the government changed hands from the Janata Dal to the Congress, the new government continued to implement the existing development agenda, including the power sector reforms. One month after taking office in March 1995, the new chief minister issued a formal statement of its power policy on April 20, 1995 that committed the government to the program and outlined a timeline. In a press conference, J.B. Patnaik expressed the hope that "by the year 2000, Orissa will become the powerhouse of the country."[194]

Orissa State Electricity Board (OSEB)

The overall financial and operational performance of OSEB was not dissimilar to that of SEBs in other states, as discussed in Chapter One. For most years, the utility relied on government subventions to earn the mandatory 3% rate of return. In 1990 this amounted to 7% of the utility's revenues and in 1995 to 20%.[195]

[193] Orissa Electricity Reform Act, 1995 (Bhubaneshwar: Government of Orissa, 1995). The Act was passed on November 28, 1995, received presidential assent in January 1996, and came into effect in April 1996.
[194] Quote cited in "Power house in order" *Outlook*, September 18, 1996.
[195] N. Sreekumar, "Lies, Damn Lies and Statistics: A Case Study of Power Sector Reforms in Orissa" paper presented at the Asia Power Sector Reforms Workshop, 2002.

There were several characteristics of the Orissa electricity system that were distinct however. The most important was its consumer profile. As the earlier section on politics made clear, political control for most of the postcolonial period, (barring a brief moment from 1967-1971), rested with elites from coastal Orissa, whose electoral and financial base lay with middle class, upper caste, and urban residents and the more prosperous middle peasant farmers of the coastal districts. Public investment over the decades largely reflects the urban and industrial bias of successive governments. Although rural electrification was a slow process everywhere, made especially difficult in the hilly terrain of western Orissa, the pace in Orissa was slower than in most other states.

Table 12: Classification of connected load, 3-31-1960

	Industrial (%)	Irrigation (%)
Andhra Pradesh	47.4	13.3
Assam	21.7	0.00
Bihar	77.5	2.6
Bombay	63.8	2.1
Madras State	40.4	29.5
Mysore State	62.9	10.7
Orissa	**89.3**	**0.14**
Punjab	41.1	14.2
Rajasthan	33.5	5.3
Uttar Pradesh	51.9	12.9
West Bengal	64.0	0.00

Source: Calculated using data from Central Water and Power Commission (Power Wing), *Public Electricity Supply. All India Statistics: 1959-60* (Simla: Ministry of Irrigation and Power, Government of India, 1960), 48-49. The state names reflect those of pre-linguistic states reorganization, so for example Bombay is present day Maharashtra and Gujarat, Mysore State is Karnataka, and most of Madras State is present day Tamil Nadu.

In 1960, a much smaller quantum of electricity went towards irrigation in Orissa than in other states. Orissa's industrial connected load made up 89.3% of the state's total connected load, whereas the connected load for irrigation use was .14% (see Table 12).

The only states which had a more skewed ratio were West Bengal and Assam. The sales of electricity from this period reflect the same bias towards industrial consumption.[196]

In the third plan period (1961-1965), which was the first period after OSEB's formation in 1961, Orissa set lower targets and committed fewer resources to its rural electrification program than most other states.[197] Orissa planned to electrify 165 villages (.34% of the total villages in Orissa according to the 1951 census) and allocated Rs. 14 million, whereas Andhra Pradesh set its target at 925 villages (3.5% of all villages) and allocated Rs. 90 million. The only states that invested less in rural energy than Orissa were West Bengal and Rajasthan.

Orissa's lax approach to rural electrification continued in subsequent plan periods. By 1983, only 43% of villages in Orissa were electrified.[198] The only states with a worse record were Bihar (34%) and Assam (31%). According to data on village electrification in 1991, Orissa continued to lag behind most other states. Of Orissa's villages, 67% were electrified.[199] The only states with lower rates were in the underdeveloped northeast, such as Tripura (60%), Meghalaya (46%), and Mizoram (63%). In contrast, Maharashtra,

[196] Central Water and Power Commission (Power Wing), *Public Electricity Supply: 1959-60*, Table XLI, "Segregation of Sales in States," pp. 56-57.
[197] Programme Evaluation Organisation, *Report on Evaluation of the Rural Electrification Programme* (New Delhi: Planning Commission, Government of India, 1965), particularly table giving "Provision, Expenditure, Targets, and Achievement of rural electrification during the three plans," p. 18.
[198] Department of Power, *Report: 1983-1983* (New Delhi: Ministry of Energy, Government of India, March 1983), cited in Centre for Monitoring the Indian Economy, *Current Energy Scene in India* (Mumbai: CMIE, May 1983), 60.
[199] "Department of Power, Annual Report 1990-91" (New Delhi: Ministry of Energy, Government of India), 12.

Andhra Pradesh, Gujarat, Himachal Pradesh, Punjab and Harayana boasted of 100% electrification.[200]

Another way to gauge the extent to which agricultural production relies on groundwater resources for irrigation, and therefore on rural electrification, is by looking at the groundwater capacity in different parts of the country. In states like Punjab and Gujarat, the groundwater table has receded rapidly due to excessive use of irrigation pumpsets, causing an ecological crisis in some parts of the country. In Orissa, there are no parts of the state that the Central Groundwater Board (part of the central government's Ministry of Water Resources) declares "over-exploited," "critical," or "semi-critical," and according to one estimate in 1993, only 5% of the state's groundwater capacity has been exploited.[201]

By the 1990s electricity subsidies had emerged as one of the most important input subsidies to agriculture in India, one increasingly blamed for the poor fiscal health of the state governments. Orissa was largely free of this problem. Although farmers in Orissa were charged very low tariffs as they were in most other states, the amount of electricity consumed by farmers was negligible, constituting only 3.8% of all consumption in 1990-

[200] The village electrification data indicate only whether the electricity grid has reached a village; these data do not indicate household electrification, which remains low even in states that claim 100% village electrification. In Orissa, there are additional reasons to believe that the official electrification rates are overly optimistic. Tribal populations living in the hills often inhabit several settlements dispersed in a region. Usually the government enumerates one of these—the one with the largest revenue generation—as the primary settlement. Even when the core settlement is electrified, the ancillary hamlets most likely are not, because of which the electrification rate most likely is still lower. See Rajkishor Meher, "Infrastructure" in *Orissa Development Report* (New Delhi: Government of India, Planning Commission, 2001), 54-70. Meher's contribution is Chapter 6 of the report.

[201] K. R. G. Nair, "New Economic Policy and Development of Backward Regions: A Note on Orissa," *Economic and Political Weekly*, Vol. 28, No. 9 (May 1993): 939-941.

91, when the national average was between 30% and 40%.[202] By 1994-1995, agricultural consumption in Orissa had grown to only 5.1%.

The second distinction between OSEB and other SEBs was in the degree to which the former relied on external sources of generating capacity. OSEB was heavily reliant on electricity from NTPC. The few generation assets that OSEB did own were privatized even before the distribution and transmission systems were sold, although the government retained ownership of the hydro sources.

When the World Bank changed its lending practices to the energy sector, this had repercussions not just for the SEBs but also for utilities owned by the central government, like NTPC. The World Bank's requirement that energy utilities operate along commercial principles meant that NTPC had to better manage its bill collections from its largest customers, the SEBs. One of the strategies NTPC employed to meet the Bank's requirement was to negotiate with individual SEBs to take over generating plants as a way to eliminate debt. NTPC reached such an agreement with Orissa in 1995, when the state sold its 460 MW power plant at Talchar to the central utility. The two utilities initially disagreed about the value of the asset, which an outside consultant estimated to be Rs. 3.49 billion ($116 million).[203] Ultimately, the plant was sold for Rs. 3.65 billion ($121.7 million).[204]

The other non-hydro generating capacity was managed by a separate public company, the Orissa Power Generation Corporation (OPGC), which was established in

[202] Centre for Monitoring the Indian Economy, *Profiles of States* (Mumbai: CMIE, March 1997), 297.
[203] "NTPC appetite for troubled units" *FT Energy Newsletters – Power Asia*, May 30, 1994.
[204] "NTPC complete take over of Talchar units" *FT Energy Newsletters – Power Asia*, June 12, 1995.

1984. OPGC's first plant—a 420 MW plant at Ib Valley—became operational in 1995. It was clear by the early 1990s that the state utility would not have sufficient resources to expand the project further, prompting the government to accept the bid from AES Transpower to build an additional 420 MW plant at the same site. AES's presence in Orissa's generation sector was to play an important role in the course of distribution privatization.

Restructuring and Privatization

In April 1996, after the reform legislation came into the effect, OSEB was dismantled and the Orissa Electricity Regulatory Commission (OERC) was formed. OSEB was split into the Grid Corporation of Orissa (GRIDCO) and the Orissa Hydro Power Corporation (OHPC). The former was further subdivided into four geographic zones that were to form the basis of the future privatizations. Gridco remained as the public company in charge of transmission. Several other departments within OSEB were disbanded and not reconstituted elsewhere, like the rural electrification division. Much of the accumulated debt of the electricity system remained with Gridco in order that the four distribution companies could show positive net worth prior to privatization.[205]

The formal agreement for the reform program was signed in July 1996 by four parties: the World Bank, the Orissa government, the Indian government, and Gridco.

[205] Balaji C. Mouli, "India: package to rescue Orissa power reforms under way" *Financial Times*, November 10, 1999.

The entire cost of the program was estimated to be $997 million, of which the World Bank's contribution was to be $350 million.[206]

In the initial design of the program, privatization of the four distribution zones was to occur sequentially, to benefit from iterative learning.[207] A mini-privatization in 1995 was meant to serve a demonstration effect, to prove that a private company could increase revenues and operational efficiency. It would also give the state and the private company time to arrive at a mutually agreeable sale price. The government invited bids for a two-year management contract to take over distribution services in most of Dhenkanal and Cuttack districts and the capital city of Bhubaneshwar.[208] Of the four companies that bid, BSES, the private company that at the time operated only Mumbai, won the contract.[209] The contract was later postponed for one year and transformed into a three-year contract. The greatest challenge for the private company was to lower the transmission and distribution losses, which were estimated to be 45%; BSES promised to reduce these to 25% by the end of three years.[210] A second challenge was to improve billing and collection, which at the time was between 75-80%; BSES pledged to increase this to 95%.

Less than one year later, in April 1997, the government revoked its contract with BSES on the grounds that the company had failed to honor one of the terms of the deal.

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[206] World Bank, "SAR: Orissa"
[207] "Report of the Committee on Power Sector Reform of Orissa" Government of Orissa, Section 3.5.
[208] "BSES b'thru in Orissa" *FT Energy Newsletters – Power Asia*, October 30, 1995.
[209] Because of decades of state monopoly in the electricity sector, there were only a handful of private companies with sufficient expertise or interest in entering the distribution business. A number of other states also were considering offering urban distribution zones to private companies under limited-term management contracts. At the forefront of these efforts was Andhra Pradesh. See Soutik Biswas and Sunil Dasgupta, "Switching to the private sector" *India Today*, April 15, 1995, 110-111.
[210] "Distribution deal for BSES" *FT Energy Newsletters – Global Private Power*, September 30, 1996.

According to Gridco, the successor to OSEB that retained distribution and transmission functions, BSES's revenue collection from October 1996 to March 1997 had fallen short of its target. For its part, BSES claimed that the failures were the fault of Gridco staff, who remained outside of the company's administrative control under the terms of the contract.[211]

There were additional reasons for the contract's termination. When the distribution companies, or DISTCOs for short, were hived off from the other parts of the erstwhile OSEB, much of the debt was retained with Gridco, the company that remained state hands. This was done to ensure that the distribution segments were attractive for private bidders. From the time that the distribution zones were corporatized, however, they began amassing their own liabilities. Some in the government worried that this decreased the likelihood of finding buyers.[212] The state government also came to believe that a privatization process stretched out over a long period of time would create needless uncertainties in what was already an uncertain process, the first state-wide privatization of a public electricity utility in India.

The state initiated privatization of the four distribution companies in November 1997. The terms of the offer included full protections for current employees of the distribution companies, to avoid opposition from labor unions. Initially twenty companies expressed interest in the offer by purchasing the government's tender offers.[213] Of these twenty, twelve companies and consortia submitted bids to the

[211] "Orissa power privatisation runs into trouble" *FT Energy Newsletters – Power Asia*, May 27, 1997.
[212] "Report of the Committee on Power Sector Reform of Orissa" Government of Orissa, Section 3.8.
[213] "India's Orissa launches sale of distribution assets," *FT Energy Newsletters – Global Private Power*, December 1, 1997.

government by April 1998 for 51% ownership of four distribution companies, known as Western Electric Supply Company (WESCO), Northern Electric Supply Company (NESCO), Southern Electric Supply Company (SOUTHCO), and Central Electric Supply Company (CESCO).[214] Despite this initial enthusiasm from foreign and Indian companies, in the end only three firms submitted bids for the four distribution zones.

Table 13: Competitive offers received from three private consortia

	value of 51% of distribution assets	BSES	Grasim	Tata Electric Companies
WESCO	248.1	545.9	369.8	16.4 (in million $)
NESCO	336.1	336.1	No bid	7.1 (in million $)
SOUTHCO	192.0	288.1	No bid	5.7 (in million $)
CESCO	370.8	334.1*	No bid	410.0*

* offer made during second round of bidding
Source: K. Ramanathan and Shahid Hasan, *Privatization of electricity distribution: the Orissa Experience* (New Delhi: TERI (The Energy and Resources Institute), 2003), 37.

The government at this point was stipulating that no single company or consortium could take over more than two of the four zones.[215] By April 1999, however, the government was forced to change this policy due to the paucity of reasonable offers. Ultimately, BSES assumed 51% ownership of three distribution companies, in the west, south, and north. All are regions where there were few residential and agricultural consumers. Gridco would continue to own 39% equity in the firms, and an employees' trust would hold the remaining 10%.[216]

For the fourth zone, in central Orissa, the government received an offer from a consortium of Tata Electric Companies and UK-based Viridian company. The consortium asked for the government to issue a six-month letter of credit, which was

[214] "Orissa receives distribution system submissions" *FT Energy Newsletters – Global Private Power*, April 1, 1998.
[215] "Orissa Distribution schemes find few bidders" *FT Energy Newsletters – Global Private Power*, January 1, 1999.
[216] "BSES buys Orissa power firms" *FT Energy Newsletters – Power in Asia*, April 19, 1999.

meant to safeguard the company from an additional burden placed on this zone. In an earlier agreement, revenues from this zone were guaranteed to an escrow account to pay for power generated from OPGC, which was the result of the earlier privatization of this generating unit.

In 1998, 49% equity and management control in OPGC had been sold to the American firm AES, which was also in long-standing negotiations with the state to build additional coal-fired power plants at the same site where OPGC operated, in Ib Valley.[217] From the time the thermal plants of OPGD became operational, the company faced persistent problems in recovering bills from the state-owned Gridco. In order for the sale of OPGC to be acceptable to AES, given this prior record of Gridco's, the state had to provide an escrow account that guaranteed that revenues collected from the central region would go directly to the power generator.

Once the condition placed by the Tata-led consortium was deemed unacceptable to the government, the only private company that expressed interest in taking over the central zone was AES itself. An earlier ban that prevented generating companies in the state from bidding for the distribution zones was lifted, clearing the way for AES to take over the central distribution company, or CESCO, as of September 1999.[218]

Gridco remained as a state-owned company in control of transmission functions in the state, which entailed buying power from generating plants and moving it along high tension wires to the distribution companies' transformer sites. The state remained,

[217] "Report of the Committee on Power Sector Reform of Orissa" Government of Orissa, Section 5.32.
[218] "Orissa advances distribution company sales" *FT Energy Newsletters – Global Private Power*, May 1, 1999.

therefore, as a middleman between two sets of newly privatized entities: on the one hand, four private distribution companies; and on the other, private generating companies that owned both greenfield projects as well as formerly state-owned plants.

Breakdown of reforms

From the start, all four of the new private distributors expressed dissatisfaction with the terms of the sale and the state's tariff policy, which was established by the Orissa Electricity Regulatory Commission. On each occasion of a tariff revision, the distributors asked for a much more substantial tariff increase than OERC ultimately awarded. Furthermore, the private companies claimed that the system losses were much higher than what the government had told them prior to privatization, on the basis of which they valued and bid for assets. According to the project estimates, transmission and distribution losses averaged 39.5% in 1996-1997. The reforms were meant to reduce these to 23% by 2002-2003.[219] Almost immediately after assuming control of distribution, the private companies revised the T&D losses.

Table 14: Post-privatization estimates of T&D losses (%)

	CESCO	NESCO	WESCO	SOUTHCO	GRIDCO's estimate of total system losses
1996-97	52.9	44.4	42.1	45.1	49.5
1197-98	47.9	42.1	38.4	35.2	49.2
1998-99	48.6	44.6	44.6	43.7	48.6
1999-00	44.8	43.4	43.4	41.9	43.8
2000-01	44.9	44.4	44.4	42.5	43.4

Source: "Report of the Committee on Power Sector Reform of Orissa," Government of Orissa, Section 4.21.

[219] "Report of the Committee on Power Sector Reform of Orissa" Government of Orissa, Section 4.21.

While three of the private entities owned by BSES continued to operate under sub-optimal conditions, AES, which owned CESCO, eventually abandoned the distribution project entirely in 2001. AES refused to pay for the power that it purchased from Gridco, which in turn claimed that its loss of revenues meant that it could no longer pay for the power that it purchased from OPGC, owned by AES since 1998.

There were numerous reasons that this part of the privatization program failed. The terms of the contract governing the sale were unclear, leaving loopholes for malfeasance on the parts of the government as well as the private owners. And according to an audit by India's Comptroller and Auditor General, the government showed AES undue favor in the terms of the deal, suggesting the considerable lengths that the government was willing to stretch in order to find sufficient private buyers.[220]

AES cited myriad reasons for its dissatisfaction, including "deep-rooted flaws in the regulatory, policy and administrative environment."[221] The company also complained of recalcitrant employees, who were protected under the terms of the contract, and government and bureaucratic delays in releasing World Bank loan funds meant to be used for making capital investments in the distribution system. The company also complained that some of its most delinquent customers were state enterprises and municipal bodies.[222] This suggests that while the privatization program had support at the very top levels of Orissa's governing class, those in the middle ranks of the government and bureaucracy were not as supportive. For its part, the government, Gridco, and the OERC

[220] "Orissa power setback has a long history" *The Statesman*, August 4, 2001.
[221] "Gridco no to AES offer to back from distribution biz" *Economic Times*, August 4, 2001.
[222] Government offices and public sector units combined accumulated Rs. 144.8 crores in unpaid electricity bills from September 1999 to March 2001. "Report of the Committee on Power Sector Reform of Orissa," Section 4.29.

complained that from the start AES (and also BSES) failed to improve operational efficiency and invest in capital improvements.[223]

The Benefits and Costs of privatization

The Orissa government's power sector reforms earned the state high marks in the initial period, and were useful as a way of spurring private investment to the state. At the Indo-US business summit held in Calcutta in 1997, the United States secretary of commerce, William Daley, predicted that Orissa's capital would be Southeast Asia's most important commercial city in the next century.[224] Private capital was equally hopeful. Whereas the ratio of public to private investment in most states was about 50:50, in Orissa, private capital counted for 71% of the total investment in the state, which may speak as much to the state's own diminished capacity as its attractiveness for foreign investors.

The primary "losers" of the restructuring and privatization programs were the residential and agricultural customers, whose tariffs rose steadily from the early 1990s onwards, and whose supply did not become more reliable in the privatized system. Other casualties of the program were communities and households that had never been connected to the state's electricity grid. These were disproportionately located in the inland districts (although even the most electrified districts in Orissa still had dismal rates of electrification compared to prosperous districts in other states), and composed of

[223] "OERC blames BSES, AES for Orissa power crisis" *Financial Express*, June 28, 2002.
[224] Cited in Nikhil Mookerjee, "Why Tomorrow Belongs to Kalinga" *Outlook*, December 29, 1997.

scheduled caste and scheduled tribe communities.[225] As mentioned earlier, the rural electrification wing of the erstwhile OSEB was disbanded, and not reconstituted in any other government ministry. The government expected the private distributors to carry on with rural electrification but did not provide any institutional or financial incentives, which meant rural electrification came to a halt following privatization.[226]

Tariffs in Orissa rose steadily throughout the 1990s, although not at a pace to satisfy the new private owners. The government raised tariffs as early as 1992 to signal its commitment to transforming the sector. From 1992 to 2001, the average tariff increased 267%, although the increases were not the same for all categories of consumers. Initially the tariff increases were concentrated on the industrial and commercial consumers, with the guarantee that the state would reduce the duration of forced power outages from ninety minutes each day to thirty minutes.[227] From 1996-97 to 2000-01, the largest increases were shouldered by domestic, commercial, agricultural, and small industrial consumers. Tariffs for large industries remained largely stable over this period.[228] It is likely that for industrial and commercial consumers, particularly the medium to large ones, the trade off between better quality supply and slightly higher prices was an acceptable one. For the 50% of households subsisting below the poverty

[225] Balram Mohanty, *Orissa: a District-wise Analysis* (Bhubaneshwar, Orissa: Vidyaratna Press, 1997), 52 provides the % of villages electrified for all thirty districts. In 1994-95, the highest electrification rates are found in Cuttack (95.0%), Khurda (92.7%), Puri (94.1%) in the east, and the lowest rates in Rayagada (35.1%), Malkangiri (32.2%), Gajapati (45.9%), Deogarh (30.4%) in the south and west.
[226] "Report of the Committee on Power Sector Reform of Orissa," Section 5.54.
[227] "Orissa tariffs boosted 15%" *FT Energy Newsletters – Power Asia*, August 8, 1994.
[228] "Report of the Committee on Power Sector Reform of Orissa," Annex 8.

line in Orissa who had access to electricity, however, even a modest increase in tariffs would have constituted a financial strain.

The project proposal agreed to by the World Bank and the government in 1996 states that the most "important beneficiaries" would be the industrial consumers:

> Industrial consumers in particular will benefit from the improved quantity, quality and reliability of their power supply, since they account for the majority of consumption and bear the brunt of load shedding [planned power shutdowns] and other failures of supply. The Orissa government expects the state's improved power supply outlook to attract additional industrial investment and encourage existing industries to expand their production facilities. This expectation is fully in line with national surveys where industrialists consistently rate power supply as one of their most critical constraints.[229]

In the lengthy, 222 page document, that includes details of the loan agreement, the reform program, and numerous appendices on various aspects of Orissa's power sector, there is less attention to the low rates of electrification and development that characterize much of Orissa. A later section states that the program is expected to only "*indirectly* help the poor by freeing up state funding…for higher priority use in the social sectors."[230] The privatization program was never expected to benefit either rural consumers or under-served communities in the immediate term, or directly. Rather the benefits would accrue indirectly and over time by stimulating industrialized development.

[229] World Bank, "SAR: Orissa," 30.
[230] World Bank, "SAR: Orissa," 32.

Conclusion

This first case study of electricity privatization has pointed out the political economic features of Orissa that explain the government's decision to privatize the electricity distribution sector. The very factor that characterizes the state's electricity grid as poorly developed—its low level of rural electrification—also made it the most politically viable as a candidate for privatization. Absent a significant reliance on electricity for irrigation purposes, the rural interests that benefit from electricity subsidies in other parts of India were missing in Orissa, thereby removing the most significant political obstacle to privatization. The explanation for why rural electrification as a critical element in a rural development program had never been carried out extensively in Orissa is located in the state's historical political economy. State-level politics in other parts of India had undergone significant political transformations in the decades leading up to and following independence, a process that transferred considerable power and subsequently resources to the countryside. In Orissa, by contrast, the leading faction of the state's political elite continued to be comprised of upper-caste, non-agrarian elites from the coastal districts of the state.

While the role of the World Bank and the central government in supporting the privatization program are important, they cannot explain the whole story. In this analysis, I lay emphasis on the local, state-level features of the political economy that explain why such external pressures were effective in Orissa and not in other parts of the country. The next chapter, dealing with the privatization of electricity distribution in

Delhi, further elaborates the point that external pressures alone are an insufficient explanation for economic reforms in India. In Delhi, the state undertook privatization for various internal reasons, without critical financial input from either bilateral or multilateral agencies.

Chapter 4: Delhi: A modernization story

"I feel like a tailor who got a fabric in tatters and keeps stitching it. Now they [the private companies] have to cope with it."[231]
Chief Minister of Delhi, Sheila Dixit,
referring to the electric utilities just after privatization was completed in Delhi.

Introduction

Throughout the 1990s, the Indian central government assembled the various states' chief ministers in New Delhi to discuss power sector reforms on at least five different occasions.[232] The goal of the early talks was to convince the states to invite private companies to build power plants, something of an easy sell as states were eager to augment electricity supplies in a way that required no other change or restructuring of existing public utilities. By 1999, when Orissa was privatizing its electricity distribution infrastructure, there was a veritable explosion of agreements between states and private companies to build power plants, as I describe in Chapter 2. Once the central government and various lending agencies realized that the fundamental problems of the electricity sector would not be solved by the entry of new private generating firms alone, but instead had to involve a more fundamental restructuring and change in ownership of existing infrastructure, the Indian government changed tack to press the idea of distribution privatization.

[231] "Discoms rule out tariff hike," July 22, 2002, *Financial Express*.
[232] Madhav Godbole, "Power sector reforms: If wishes were horses," *Economic and Political Weekly* Vol. 37, No. 7 (Feb. 16, 2002).

Despite the center's pressure and a system of incentives, three years after Orissa's privatization, only one other state—Delhi—was ready to sell its distribution infrastructure. The Delhi government took this decision despite the poor marks that the Orissa experiment was already garnering. Why the Delhi government would take such a decision is the subject of this chapter. I argue that in the first instance, what made the policy option viable in Delhi were factors similar to those that produced the Orissa outcome. As in Orissa, in Delhi's political economy, rural interests were negligible. Instead, a combination of pressure from industrialists, which was expressed most pointedly through their departure from the public grid and their return after privatization, and from middle class consumers whose ire was conveyed in noisy public demonstrations, was sufficient to convince the state government that privatization would yield both political and development benefits.

Urban India is now the focus of marketing dreams. The Indian middle classes who reside there have come to assume an almost mythic quality, especially so among producers and purveyors of consumer goods. In a population of a billion, even a middle class that represented a mere ten percent of the total population would constitute a sizeable new consumer market, or so goes the perspective on the middle class that has been touted in the financial press since the time the government stepped up economic liberalization in 1991.[233] India's middle classes have happily acquiesced to playing their

[233] As representative, consider the following, which dates to only the year after the major liberalization thrust: "But now that foreign investors are no longer treated as wicked exploiters, many of the world's biggest companies are cautiously returning. They are lured by the promise of further market-freeing reforms and the prospect of selling products to India's large and growing middle class, which has long been deprived of the variety and quality of goods that affluent consumers elsewhere take for granted." "Investment in India; reforms start to pay," *The Economist*, July 18, 1992.

new role. Shielded behind relatively high barriers to trade for decades after independence in the mid-twentieth century, the affluent urban Indian has proven a very enthusiastic acquirer of foreign and domestic cultural and consumer products.

Just as the growth and increasing affluence of the middle class is influencing global patters of trade and capital investment, so too does it impact politics and the trajectory of economic policies. The story of economic policy in Delhi, this thesis suggests, cannot be separated from the changing configuration of state-society interactions during the period of economic liberalization, in particular the growth of the middle class, and their effect on the state's policy decisions.

The anecdotal but widespread view of India's public sector enterprises and in particular its electric utilities, is that they are critical sites of political corruption, evils necessary to finance growing election expenses. From the perspective of the political leaders making decisions to privatize, the question then becomes one of explaining why, if these enterprises are so important for politicians, they would ever be privatized. I suggest that as middle and upper class residential consumers and industrial consumers came to a consensus on the need to improve public services in Delhi, the political calculus facing the Delhi government shifted in favor of privatization. From being a patronage boon and a resource for party funds, the publicly owned electricity sector became much more of a political liability.

Urban India is equally significant as the host of its industrial sector. Although one goal of India's centrally planned investment regime from the 50s to the 80s was to correct regional imbalances in development and industrialization, industry continues to

be concentrated in and around urban clusters. Delhi is no exception. Industrial consumers, for whom electricity is a significant component of production, have indicated their dissatisfaction with high prices and poor quality since the 1980s by leaving the public grid in increasing numbers, opting to establish their own private supply units, called captive power stations. Lobbying for privatization by industrial consumers consisted of this desertion from the grid; their exit was their vote. Because industrial and commercial consumers are the only consumers who pay remunerative tariffs, the departure of the former further strained already stretched finances at the state-owned utility. Like the middle classes, industrial consumers also expected to benefit from restructuring and privatization, especially as these were part of a larger package of proposals that included rationalizing and depoliticizing tariffs by handing the sector over to autonomous regulators.

The story of Delhi's privatization is also useful in assessing the thesis that an ideological commitment to market reforms is an essential ingredient to the implementation of economic liberalization. Privatization in Delhi was driven more by pragmatism—on the part of industrial and residential consumers who believed that with a private utility they could avoid perennial black- and brown- outs; and by politicians who believed that holding on to a public utility, despite its patronage benefits, was potentially electorally damaging. Had an ideological commitment to markets and competition played a greater role in the privatization process, the sequencing and details of the process would have looked much different. In fact, some of the most trenchant criticism of the privatization in Delhi has come not from opponents of privatization, although they

too are critical, but from proponents of free markets and competition. These critics argue that the government has essentially replaced a public monopoly with private ones. Ironically, critics of the privatization program from both the left (those who would prefer continued, albeit improved, public ownership of utilities) and the right (those who seek greater openness in the market), both accuse the state of essentially privatizing profits and socializing risks. The two private firms that ultimately took over Delhi's distribution segment are part of the largest and most politically potent business houses in India, Reliance Industries and the Tata industrial group.

Delhi's privatization is also an important challenge to the notion that market reforms are being undertaken at the behest of international donors through conditionality. Privatization was undertaken at an enormous cost to the government and without financial support from the World Bank or other international funding agencies.

Delhi is unique among the cases investigated in this study, not merely because of its official status as a territory rather than a state, but also because of the composition of its society. As a primarily urban space, Delhi is missing the caste / class structures that define the provincial elite in other parts of India. For example, Delhi is lacking the numerically strong middle peasant castes, which have recently come to dominate politics in North India and have long done so in other parts of India, like Maharashtra and Andhra Pradesh. The absence of strong rural consumers is the common thread linking Orissa and Delhi, the two states that privatized their distribution systems, although the historical processes that explain this are different in the two cases.

Delhi is suffused with a culture of bureaucracy and governance that dates to the Mughal period, when it was the seat of sultanate power, and the colonial period, after the British moved the capital of their prized colony from Calcutta to Delhi in the early twentieth century. In a sense, there is less differentiation between state and society in Delhi than in other sub-national units of India. The dominant societal elements—composed of bureaucrats and others who work for government agencies and enterprises—are very similar, with shared socio-economic profiles and concerns, to the political elite of the Delhi state. Education levels and per capita income attest that Delhi has the most educated and prosperous population among the states and territories of India. A final characteristic that sets Delhi apart from other parts of India is a product of its status as the nation's capital, which lends the city and its inhabitants a cosmopolitan profile. More than Indians in other cities and certainly more than rural citizens, Delhi's wealthy residents have come to expect a modern life, one that includes fast food, shopping malls, and central air, all of which require increasing amounts of reliable electricity supplies.

Privatization of electricity distribution was perceived by Delhi's consumers to be the solution to the capital's chronic electricity shortages and erratic supply. Scholars have suggested that electricity is one policy domain in which constituencies make fewer policy demands because "distributive consequences are opaque."[234] In this case, however, Delhi's residential constituents could evaluate the future impact of privatization

[234] Victoria Murillo, "Policy-making under globalization pressures: reforming public utilities in Latin America," Paper presented to the Comparative Politics Workshop, University of Pennsylvania, April 15, 2003, p. 8.

by comparing Delhi's electricity system with the privatized electricity system of Mumbai, which was perceived to be functioning much more efficiently although at slightly higher tariff levels. This comparison was often made on the editorial pages of the English language press, which both represent and shape middle-class opinion in Delhi. This perhaps distinguishes Delhi from Orissa, where it is less clear that middle class and poor constituencies had a strong prior expectation of what privatization would entail. Furthermore, opinion polls on the subject of governance in Delhi that asked explicit questions about electricity privatization reveal that among all consumers, middle and upper class residents favored privatization in greater numbers than low income residents. The latter continued to oppose privatization; for people with low incomes, the trade-off between higher prices and better supply would not necessarily be a favorable one. For industrial consumers, the consequences of reform were even more obvious. It was well-known that industrial consumers of electricity in India paid much higher costs per unit of electricity than their counterparts in other countries, thanks largely to a system of cross-subsidies and general operating inefficiencies. Privatization was seen by manufacturers and commercial consumers alike as the best solution to these problems.

Delhi's privatization program further suggests that in this part of India, labor unions are not the effective oppositional force that they have been in other countries. The political science literature on economic reform suggests that the pace of change has been slow because losers from the process know ex ante how they will be hurt, and organize to oppose change, whereas the potential beneficiaries of the process are an inchoate and

unorganized group.[235] Among the former category, it is further assumed that labor unions in the public sector stand to lose the most. In both Delhi and Orissa the state governments signed tripartite agreements with the apex labor unions and the new private utility owners that protected all existing jobs and benefits. This went a long way toward dissipating union opposition. In at least one case, a union leader who was a signatory to the tripartite agreement on behalf of the electricity engineers union, also went to occupy a senior-most management position in one of the new private utilities. Informal conversations with union members revealed that at least some rank and file members of the union felt betrayed by the deal.[236]

The state of Delhi's infrastructure

The Delhi Vidyut Board (DVB),[237] Delhi's equivalent of a state electricity board, was formed only in 1997. Prior to that, the sector was managed by an administrative department of the Municipal Corporation of Delhi called by the Delhi Electricity Supply Undertaking (DESU). Delhi was not held to the mandatory creation of a state electricity board because of its status as a territory rather than a state.[238] DESU's performance as an integrated electric utility suffered from many of the same problems that plagued other

[235] For an early instantiation of this argument that was followed in much of the subsequent literature on the politics of economic adjustment, see the essays in Joan Nelson, ed. *Fragile Coalitions: The Politics of Economic Adjustment* (New Brunswick, N.J.: Transaction Books, 1989).
[236] While waiting in his office's antechamber to speak to D. K. Puri, the Managing Director of the newly privatized BSES, I had separate conversations with two junior engineers who asked to remain anonymous. They both expressed the sentiment that the union leadership had personally benefited but had jeopardized broader union interests.
[237] *Vidyut* is the Hindi word for electricity.
[238] Various Delhi governments over the years have demanded full statehood from the central government.

electric utilities in the country. These were perhaps exacerbated because of the institutional structure of Delhi politics, which has multiple tiers of government with overlapping jurisdictions. The major institutions of governance include the Municipal Corporation of Delhi (MCD), the Government of National Capital Territory of Delhi (the equivalent of Delhi's state government), and the central government. Although the DESU, as a municipal department charged with generation, distribution, and transmission of electricity, was meant to be autonomous, this rarely obtained in practice. For example, the ability of DESU to increase tariffs was constrained by the need to secure the approval of the central government.[239]

Despite the continued importance of electricity in the state's investment patters, reflected in the high though fluctuating share of energy investment as a percentage of the total Delhi investment plan, the electricity sector in Delhi deteriorated throughout the late 1980s and 1990s.

Table 15: Plan spending on Energy

Plan	Period	Total Plan Expenditure (crores)	Expenditure on Energy (crores)	Energy expenditure as % of Total
Sixth	1980-1985	1,042.07	169.80	16.29
Seventh	1985-1990	2,631.47	838.86	31.88
Eight	1992-1997	6,208.32	1,555.92	25.06
Ninth	1997-2002	15,541.28	3,046.55	19.60
Annual Plan	1997-1998	1,978.31	307.72	15.55
Annual Plan	1998-1999	2,052.95	447.84	21.81

Source: Economic Survey of Delhi, 1999-2000 (New Delhi: Government of Delhi, March 2000), Chapter 11.

[239] For example, after a tariff increase in 1985, tariffs were only revised again in 1991 although the costs of fuel and transportation increased throughout the period. "DESU boosts tariffs despite Congress party opposition," *Power Asia, FT Energy Newsletters*, February 11, 1991.

Throughout the 1980s and 1990s, spending on energy made up between fifteen and thirty-two percent of Delhi's total planned expenditure, which represents the largest share of spending in most plan periods.

Agricultural subsidies, which advocates of privatization commonly blamed for the poor performance of electricity sectors in most other states, are not a significant issue in Delhi. In the decades since Independence, the metropolis of Delhi has absorbed most of the rural hinterland that once ringed the city. Agriculture currently represents a small portion of the total employment in the territory, and absorbs only a small fraction of productive inputs, including energy. The Ministry of Agriculture reports that 1.33% of electricity consumed in Delhi was put to agricultural uses,[240] while the Planning Department of the Delhi government leaves out agriculture entirely in their tabulation of electricity consumption, suggesting that the amount is insignificant from the planner's perspective.

Like those of most other state electricity boards, the numbers representing Transmission and Distribution (T&D) losses, which have been rising steadily and now exceed the bounds of accepted technical losses, also hide theft of electricity.

Table 16: Transmission and Distribution Losses in Delhi Vidyut Board

1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1996-97
22.56	22.46	30.32	32.18	42.55	42.11	42.72

Source: Strategy Paper on Power Sector in Delhi, Government of Delhi, 1999.

There are numerous points at which electricity is lost from the moment it is generated to the time it is used. Higher voltage transmission lines are the most efficient

[240] Directorate of Economics and Statistics, *Agricultural Subsidies at a Glance 2003*. (New Delhi: Government of India). Table 15.11 "State-wise Consumption of Electricity for Agricultural Purposes during 2000-2001."

means of transporting electricity, and these are used to transfer electricity from generating plants to the perimeter of load centers, a term used to refer to a cluster of consumers. From this perimeter, the voltage is stepped down via a transfer to a lower level (for example from 220 Kilovolt lines to 66 or 33 kilovolt lines). As most load centers are cities or towns, transformers are generally located at the urban periphery. At the lower voltage, electricity is then conducted to several more points within the city, where it is again stepped down via a transformer to levels suitable for consumption. The cut-off between transmission and distribution segments is determined by the voltage of electricity; anything above 66 KV lines is considered the purview of wholesale transmission and anything below is part of the retail distribution business.

Even in the most efficiently constructed and managed transmission and distribution system, some reduction to the original amount of electricity generated will take place as it makes its way to end users. This is one of the particular characteristics of electricity as a commodity. Another is that electricity must be consumed just as it is produced. Reductions like these are considered part of technical losses and can be minimized, to a point, by making improvements to the quality of the design and the materials used in construction. International norms of accepted technical losses have steadily lowered as generation and transmission technology has improved.

In press coverage and everyday parlance in Delhi T&D losses are known as “theft and dacoity” losses, which has come to refer to all the other ways that electricity is lost along its transmission and distribution route. There are several common ways that

electricity is stolen in India.[241] The first involves adjusting or tampering with a meter so that it cannot record actual electricity consumption. The second involves directly tapping into the current running along aerial distribution lines. Theft like this is common and conspicuous. A tangle of overhead electric wires is a common site along many streets in urban India. A final method involves the complicity of the meter-readers and linemen of the utilities, who collude with consumers to profit privately at the expense of the utility. No systematic study has been undertaken to reveal the contributions of each of these methods to the total losses. According to some estimates though, the theft of electricity in Delhi had exceeded fifty percent prior to the distribution privatization, meaning that only half of all the electricity that the DVB either purchased or generated was accounted for in revenues.

The causes for the deterioration of Delhi's electricity utility are numerous, and the data can provide very little guidance in assigning relative importance to the array of contributing variables. Theft is one factor. The neo-classical explanation for the failure of public sector firms, rooted in principle-agent problems, yields additional traction on the problem, particularly with reference to the poor management of the utility. However, there are additional problems, one of which is a consequence of coordination problems with neighboring states whose electricity sectors are inter-connected through a regional transmission grid.

[241] During an extensive conversation, D. B. Arora, Additional Superintending Engineer in the Punjab State Electricity Board, outlined the numerous crude and sophisticated methods of stealing electricity. Author's interview with D. B. Arora, April 3, 2003, Ludhiana, Punjab. Stealing electricity is not unique to India. An article in a trade journal of the electric power industry laments the rise of electricity theft, and the use of the internet as the newest medium through which information on stealing electricity is shared. Karl A. Seger "Energy theft – an international perspective," *Metering International*, 2002, Issue 1.

Another significant problem in the territory of Delhi is caused by the mushrooming of new residential colonies and clusters in the city. The use of land in the city is tightly regulated by a number of organizations with sometimes overlapping jurisdiction. The Delhi Development Authority, the Delhi Municipal Council, and the New Delhi Municipal Council, also participate in land use issues.[242] The legislation that governed the Delhi Vidyut Board prior to its unbundling was the Delhi Electricity Control Order, 1959, which prohibited an electricity connection being granted to any commercial, domestic, or industrial consumer until the proper certificates and clearances from the local municipal body were presented that either show ownership or a legal lease. These were notoriously difficult to obtain, partially because officials would use their offices for rent-seeking, which further increased the already high costs of legal construction. Residents of unauthorized constructions, with no legal remedy, illegally tap the existing distribution wires for electricity. Residents of illegal construction have the same difficulties getting water connections from the water utility as they do obtaining electricity connections.

Consumption and production

The population of Delhi increased rapidly following independence, from 1.74 million residents in 1951 to 13.78 million in 2001, according to the most recent census taken in 2001. Initially this growth was disproportionately high compared to the rest of

[242] There are even more agencies with jurisdiction over land use than these three. "Delhi 2021" the report of the Delhi Urban Environment and Infrastructure Improvement Project, which was completed in February 2001 and financed by the World Bank, lists at least eight separate agencies with such jurisdiction.

the country and even compared to comparably sized cities because of a large refugee influx following partition with Pakistan. The pattern of electricity consumption reflects demographic trends in the city and also trends in income and spending patterns. Table 17 gives consumption figures for different categories of electricity users in the city.

Table 17: Pattern of Electricity Consumption (in million units)

Year	Domestic	Commer-cial	Industrial	Water Works and Street Lighting	Licenses (NDMC and MES)	Total
1976-77	441	247	444	111	363	1606
1977-78	454	243	483	121	376	1677
1978-79	530	243	567	131	424	1895
1979-80	576	242	639	127	433	2017
1980-81	701	453	590	175	453	2372
1981-82	746	499	753	61	485	2544
1982-83	850	598	821	42	530	2841
1983-84	945	632	858	38	579	3052
1984-85	1162	709	950	48	597	3466
1985-86	1286	779	1095	193	598	3951
1986-87	1385	827	1200	73	599	4084
1987-88	1483	881	1085	280	639	4368
1988-89	1687	918	1420	297	641	4963
1989-90	2108	1046	1751	299	649	5853
1990-91	2316	1093	1952	347	707	6415
1991-92	3110	1002	1843	363	781	7099
1992-93	3741	1024	2067	378	786	7996
1993-94	3348	1172	1764	363	781	7493
1994-95	2961	1278	1368	350	883	6840
1995-96	2835	1501	1537	390	1037	7300
1996-97	3038	1004	2047	528	931	7548
Change over time	689%	406%	461%	476%	256%	470%

Source: Planning Department, *Economic Survey of Delhi, 1999-2000* (New Delhi: Government of N.C.T. of Delhi, March 2000.) Table 11.3

Domestic consumption increased almost seven-fold over the two-decade period, while the electricity for commercial, industrial, and municipal use increased by between four and five times their consumption levels of the late 1970s. The lower growth rates for industrial and commercial categories also reflect the rise of back-up generator sets in

commercial and small industrial premises and captive power plants in large industrial units. This will be discussed in further detail in a subsequent section.

Generation of electricity by Delhi's municipal corporation (DESU) and later by the public utility (DVB) did not keep up with the growth in demand. The utility made up the shortfall in its own generation capacity by purchasing supplies, primarily from centrally-owned generating stations (National Thermal Power Corporation mainly) but also from neighboring states.

Table 18: Available electricity in Delhi

Year	Generated by DESU / DVB (in million units)	% of total	Purchased from NTPC or other sources (in million units)	Total (in million units)
1976-77	1569	77.9	446	2015
1977-78	1593	74.4	548	2141
1978-79	1413	59.3	971	2384
1979-80	1467	56.7	1120	2587
1980-81	1313	44.9	1613	2926
1981-82	1113	34.1	2153	3266
1982-83	1077	30.0	2520	3597
1983-84	1037	25.7	2993	4030
1984-85	1255	27.7	3283	4538
1985-86	1158	23.6	3759	4917
1986-87	1402	25.2	4157	5559
1987-88	1359	22.0	4832	6191
1988-89	1088	16.0	5732	6820
1989-90	1662	21.8	5962	7624
1990-91	2351	26.9	6378	8729
1991-92	2415	26.0	6973	9288
1992-93	2433	23.1	8115	10548
1993-94	2281	20.9	8645	10926
1994-95	2280	18.7	9905	12185
1995-96	2212	17.0	10789	13007
1996-97	2026	14.8	11656	13682

Source: Planning Department, *Economic Survey of Delhi, 1999-2000* (New Delhi: Government of N.C.T. of Delhi, March 2000.) Table 11.1

Delhi's utility moved from being mostly self-sufficient with respect to generating resources to almost entirely reliant on purchases of electricity by centrally-owned stations and other states. The trend toward increasing reliance on the central government is

present in the utility systems of most states, although not all became reliant to the same degree. The central government entered the generating business in the mid-1970s, when National Thermal Power Corporation and National Hydroelectric Power Corporation were formed with World Bank loans in 1975. The Bank at that time shifted its funding pattern to favor the central government enterprises over SEBs. Delhi is one of a handful of states that rely on external sources—both the central government and neighboring states—for over three-quarters of their supply needs. This allows the central government greater control over Delhi's electricity system and may have played a significant role in encouraging privatization.[243]

From the perspective of advocates of power sector liberalization, if farmers are the primary obstacles to reform in other states, their counterparts in Delhi are residents of slums, or jhuggi-jhopri clusters as poorer unauthorized housing colonies are called. The Slum and JJ Department, under the Municipal Corporation of Delhi, is charged with relocating dwellers of illegal housing clusters to legal residences. In 1990 the government of Delhi adopted a new policy with the aim of curtailing the number of people forced to live in illegal jhuggi-jhopris. The plan was to relocate residents of jj clusters when the land on which they are residing, which is mostly government owned, is to be used for some public development project.

The number of Delhi's citizens living in illegal clusters, like the population in general, has expanded rapidly despite the efforts of the Slum and JJ Department under the

[243] I heard a great deal during interviews about pressure from the central government to repay outstanding dues owed to central government enterprises, although I could determine no systematic relationship between partisanship (of the state and central government) and the presence or absence of such pressure.

1990 program. So long as people continued to live in illegal dwellings, they are not able to petition for a legal electricity connection from the utility, which forces them to steal electricity. The demographic estimates of JJ cluster residents give a sense of the size of this problem. The number of JJ clusters increased from 929 in 1990 to 1080 in 1994 before climbing to 1100 in 2001, by which time the total population residing in these illegal communities had grown to 3,000,000.[244]

Although the sum of electricity used in each individual shelter is small, the total quantity could become substantial. Without legal connections and meters, the actual scale of electricity theft by different consumers remains the subject of endless debate. With relatively fewer poor residents of Delhi connected to the grid, their interest in whether the utility was privatized or not was also much lower than other residents. According to the 1991 Census, 80% of Delhi's households had electricity connections; the remaining 20% were in JJ clusters, and unauthorized dwellings, and rural areas.[245] The 2001 Census records that a decade later, 93% of Delhi's residents had legal connections, and only 7%, who were in JJ clusters, unauthorized dwellings, and rural areas, were without electricity connections.[246]

[244] Taken from "Report of the Comptroller and Auditor General of India on accounts of Government of National Capital Territory of Delhi," March 2002, Table 5.2.2
[245] *Economic Survey of Delhi, 1999-2000*, Government of Delhi, Chapter 11.
[246] *Economic Survey of Delhi*, 2003-2004, Government of Delhi, Chapter 11.

Power cuts and public protest: the middle class takes to the streets

Middle and upper class consumers of electricity came to see privatization of services as a solution to the chronic blackouts they faced, especially in the hottest months of the year. Increasing anger over poor electricity service suggests that the electricity sector had become a political liability, forcing the state government to apologize repeatedly for poor performance in the months and years leading up to privatization. Conversely, as soon as privatization was complete and the new owners had assumed the reigns, the government was able to pin the blame for failures on the new private owners. As the quote that started the chapter suggests, Delhi's chief executive looked forward to shifting the blame for poor electricity supply onto new owners.

The role of the middle class in Indian political and economic life has been receiving increasing attention in recent years. A book published in New Delhi in 1998 titled *The Great Indian Middle Class* launched a popular stream of a discussion that had already been taking place among academics and policy-makers. The author, Pavan Varma, a member of India's foreign service cadre, argues that the ethos of Indian elites now is fundamentally changed from the early decades after Indian independence. Whereas in earlier decades India's middle classes and elites had understood their economic and political destiny as inextricably bound with that of the much larger mass of poorer Indians, the situation in the late 1990s was one he characterized as a "secession of the successful."[247] Another portrayal of the middle class argues that they are

[247] Pavan Varma, 1998, *The Great Indian Middle Classes* (New Delhi: Viking), p. xii.

"denationalized," far more aligned with the ideologies and consumer preferences of the west than with those of their fellow Indians.[248] A more recent book suggests that the new Indian middle class is marked both by changes in patters of consumption and lifestyle, but perhaps more importantly by certain representational practices that are impacting how the middle class defines itself.[249] Among political science scholarship, there is some expectation that the middle classes will eventually take a leading role in facilitating economic liberalization in previously statist contexts.[250]

One method that citizens have to protest the inadequate provision of public services is to retreat from the public grid. Those who can afford to exit public services often do so, in India and elsewhere. Many Indians exercise this option in the sectors of health and education. In higher education in engineering, for example, the share of the private sector has increased from 15% in 1960 to 86% in 2004.[251] Similarly, in the power sector, consumers frequently turn to back-up power. The steep economies of scale in the power sector, however, mean that such back-up power is more expensive than power from the grid. This remains the case technological advances that have undoubtedly brought down the costs of such off-grid power. The Delhi Vidyut Board was statutorily required to keep track of the number of diesel generator sets larger than 10KV in use in the capital territory. However, as no figures were recorded for generator sets of any size,

[248] Rajesh Kochhar. January 3, 2004. "Denationalised Middle Class: Global escape from Mandal," *Economic and Political Weekly*.
[249] Leela Fernandes, 2006, *India's new middle class: Democratic politics in an era of economic reform* (Minneapolis: University of Minnesota, 2006).
[250] Haggard and Kaufman, *Pathways from the Periphery* FULL CITATION.
[251] Devesh Kapur and Pratap Bhanu Mehta, "Indian higher education reform: from half-baked socialism to half-baked capitalism," paper presented at CASI conference on "Economic Reforms, Human Development and Governance in India: Changes in Institutional Structures and Incentives since 1991," University of Pennsylvania

accounts of their use is largely anecdotal. Despite the high cost, many consider that a majority of middle and upper income residents have either back-up generator sets or inverters, which act like massive batteries, charging while electricity supply is available.[252] In assessing the main determinants of air pollution in Delhi, a serious problem in the capital in the early 1990s, one media account notes that "most middle-class households now either have gensets or plan to get one."[253] This assessment of the prevalence of back-up energy sources was confirmed even by employees of the public utility, who one might assume have a stake in downplaying their use.[254]

Electricity is a unique commodity in that it cannot be stored very efficiently, requiring it to be used when it is produced. Maintaining an electrical system, therefore, requires careful management of production and consumption; an excess or a shortage of electrical current can damage equipment on both the utility and consumer ends. The electrical load has to be managed to take into account fluctuations in consumption patterns. In a typical system, the morning hours represent peak consumption, when residences, industries, and commercial establishments require energy. The evening hours represent another peak in load, when people return home and lights and fans are turned on. During the night, however, load decreases. In addition to fluctuations in load during a single day, demand for electricity fluctuates throughout the year in response to changes in temperature. Regions with the extreme seasonal variation are most affected by this.

[252] This was the view even among electricity sector bureaucrats, like the former chairman of the Delhi board, Jagdish Sagar. Author's interview with Jagdish Sagar, September 23, 2003, New Delhi.
[253] Shubhajit Roy, October 3, 2001, "Power Shortage is Generating Pollution," *Times of India*.
[254] Sagar; also new Managing Director of BSES.

Delhi is one such region. In the summer months from May to July, average high temperatures exceed 100 degrees Fahrenheit.

In many states, utilities maximize efficiency by allocating electricity to farmers during the nighttime hours, who wake at odd hours to operate pumps that will bring groundwater to the surface. Another method of managing peaks and troughs in consumption is to use hydroelectric power to satisfy peak demand. Unlike thermal generating stations, hydroelectric stations can be turned on and off without a great loss of efficiency. A relatively new form of load management, one that is only now being considered in India, is to price off-peak electricity at lower rates to encourage users to shift consumption from day-time and weekday usage to night-time and weekend usage.

Delhi has fewer options than other states to manage load fluctuations. The lack of agricultural load in Delhi is most often thought of as a boon for the state because it eliminates the expense of laying transmission lines in far-flung rural outposts and the difficulty of billing and metering sparsely situated consumers. However, the lack of agricultural load has also meant that the utility could not rely on farm consumption as a way to even out its demand curve. Delhi was also one of the few regions that had no hydroelectric stations contributing to its generating capacity. All of the power that the utility generated came from costly thermal stations.

One way that the utility in Delhi responded to increases in peak load during the summer months is by scheduling planned cuts in power, which often became the focus of public protests that occasionally become violent. Since electricity is used not only to power electrical motors and appliances, but also to pump water into homes, power cuts

have a far-reaching impact on daily life. In June 1992, the Delhi Electricity Supply Undertaking, or DESU, unable to increase supplies to satisfy increased demand, restricted large air conditioners, factory production, neon signs, and electric decorations in commercial premises as a way to deal with a surge in demand for electricity in the summer heat.[255] As the next section will discuss, industrial and manufacturing enterprises could exit the public grid and set up their own private supplies, which they did in increasing numbers throughout the 1980s and 1990s. The economics of electricity, however, binds most residential consumers to the public grid because the costs of leaving the grid individually are prohibitively high. In 1992, as in other years, residents protested the cuts in service by pelting stones at the utility's offices and blocking traffic.

Public outrage over poor utility performance surfaced almost every year in Delhi during the hot months of summer. For example, in 1994, residents were subject to cuts in supply, also called load-shedding, throughout the months of July and August. In August of that year, 1,200 residents from the middle-class enclave of Kishan Ganj marched through the streets to the nearest utility office, screaming "we want electricity."[256] The Delhi headquarters of the Bharatiya Janata Party, which was then in power in Delhi, was flooded with complaints. The government responded to public hostility, which again manifested itself with violence towards employees and offices of the utility, by firing the utility's general manager. The Chief Minister of Delhi at the time, Madan Lal Khurana,

[255] "Delhi distress heats up" *Financial Times Energy Newsletters – Power Asia*, June 29, 1992.
[256] Molly Moore, "Indian Megalopolis groans at the seams" *The Guardian*, October 7, 1994.

stated at the time "I am against the privatisation move, but DESU has to buck up if this is not to happen,"[257] rhetorically distancing his government from the government enterprise.

Similar shortages of electricity prompted public protests in each of the years leading up to the privatization. The protests communicated citizens' views on the performance of the public utilities, forcing government officials in many instances to respond with public statements explaining the utility's performance. Almost immediately after privatization was complete, the government was able to shift the blame for the ongoing power crisis to the new private owners. As the quote by Delhi's Chief Minister, Sheila Dixit, that opened this chapter shows, the administration welcomed the transfer of authority and blame, to the new private owners.

Elections constitute less dramatic, more prosaic mechanisms for citizens to make their preferences known to elected leaders. However, few scholars of India have considered elections in India to be public referenda on issues of governance or the quality and direction of public policy. Far too often, the electorate's attention is drawn to communal and caste conflicts. Writing of the Indian polity in the late 1980s, for example, Rudolph and Rudolph (1987) argue that "other kinds of social formations rival or surpass class in the determination of collective action, historical change, and state orientation."[258] Caste identities have become even more of a political force after 1989, particularly in north India, when the government announced that affirmative action programs would be expanded according to the recommendations of the Mandal

[257] "DESU chief sacked over power outages, privatization" *Financial Times Energy Newsletters – Power Asia*, September 5, 1994.
[258] Rudolph and Rudolph, 1987, *In Pursuit of Lakshmi: the political economy of the Indian state* (Chicago: University of Chicago Press), p. 397.

Commission. And the importance of religious identities as tools for political mobilization was underscored yet again after 1991, when a coalition of Hindu fundamentalist organizations destroyed a Muslim house of worship in order to re-build a Hindu temple. This marked the beginning of period in which the Hindi nationalist Bharatiya Janata Party was the only party other than the Congress Party that could claim to have an all-Indian presence.

In the case of Delhi's elections in 1998, however, there is both theoretical and empirical support for the idea that social identities have less salience than in other parts of India, and that voters were concerned with issues of governance. One reason that governance issues may be more prominent in Delhi than elsewhere is the nature of its citizenry. As described at the start of this chapter, Delhi is without the vociferous and politically potent landed interests that continue to dominate politics in other provinces in India. The percentage of Delhi's population engaged in agricultural work has steadily declined, although ironically the proportion of residents who reside in areas zoned as rural has increased. This is due to the steady spread of urban Delhi into formerly agricultural lands in search of lower housing costs.

Delhi's population is largely a product of the successive waves of migration to the city starting after Partition. Migrants from Punjabi Pakistan make up the first large group of migrants, but the promise of jobs and higher wages continued to draw migrants from neighboring states in the decades after Partition. Data from the most recent census of India in 2001 show that migrants still compose close to 7% of Delhi's population. In

1961, over 56% of Delhi's population recorded their birthplace outside of Delhi.[259] Migration disrupted networks of caste and clan to such an extent that, according to one scholar of Delhi's politics, "it is no longer caste, but economic status that plays an important role in the voting decision of the people."[260]

Wealthier residents were more receptive to privatization than Delhi's poorer residents, both before and after the change in ownership of electricity distribution took place. A survey jointly conducted by the newspaper *Hindustan Times* and the Centre for the Study of Developing Societies (CSDS) in Delhi in 2003 asked respondents to comment on whether privatization had benefited the populace. The results were disaggregated by socio-economic class. Whereas 45% of rich respondents and 31% of middle class respondents answered in the affirmative, only 22% of poor respondents did so.[261]

Unlike in other states in India, the electoral field in Delhi for several decades has been consistently dominated by India's two national parties, the Indian National Congress and the Bharatiya Janata Party, or BJP. The BJP had won state elections in 1993, capturing 43% of the total votes cast, as against the Congress vote share of 35%. The assembly elections held in Delhi in 1998, in which the Congress Party captured 48% of the votes while the BJP received only 34% of the votes, brought the Congress back to power. The CSDS conducted an opinion poll in 1998 to gauge the reasons for the state election outcomes in Delhi and three other states. The results of the poll, given in Table

[259] Vijay Laxmi Pandit, 1984, *Elites and Urban Politics: a case study of Delhi* (New Delhi: Inter-India Publications), p. 78.
[260] Kumar, Sanjay. 2004. "A Tale of Three Cities" *Symposium* Vol. 534 (February).
[261] Some of the findings of the survey are reported in Kumar, "A Tale of Three Cities."

19, suggest that general dissatisfaction with governance was among the many reasons for the Congress victory in Delhi in 1998.

Table 19: Delhi citizens' satisfaction with governance

Level of satisfaction	For State government	For Central government
Not at all satisfied	44.1	39.8
Somewhat satisfied	31.3	32.4
Very satisfied	21.3	23.3

Source: Kumar (1999), who relies on data from the CSDS exit poll conducted in 1998

Nearly half of all respondents (44%) reported that they were not satisfied with the quality of governance in the capital, and more leveled their dissatisfaction at the state than the central government. Only 21% gave the response "very satisfied." Both the Congress Party, which was in opposition at the time, and the incumbent Bharatiya Janata Party, built their election manifestos around issues of governance, suggesting their awareness of this discontent among the electorate.[262]

The urban middle classes in India have been organizing to force the state to improve public spaces and civic life. In Delhi, the most powerful middle class organizations are the Resident Welfare Associations (RWAs). The Congress government led by Sheila Dixit introduced a program in 2003 that channeled the growing energy and organization of the RWAs into a collaborative relationship with the government. Called Bhagidari, literally "collaborative partnership" the government launched the program in 2000 to bring together RWAs and Merchants and Traders Associations to decentralize solutions to urban problems ranging from service delivery (water and electricity), safety, and public health to rainwater harvesting and the problem of illegal commercial and

[262] Singh, Darshan, 2001, *Sheila Dixit: The Torch Bearer* (New Delhi: United Children's Movement), pp. 3-8.

residential premises. Although the effectiveness of the Bhagidari scheme is debated, one of its impacts was the bring the Sheila Dixit-led Congress government a larger political base among Delhi's middle classes.[263]

Newspaper editorials and letters to the editor in Delhi offer another way to gauge popular opinions about reform and privatization. There are two surveys of media consumption in India, both undertaken by consortia of industries and businesses as a guide to rationally spending marketing and advertising money. The older of the two, the National Readership Survey, was established in 1974 and carried out every five years, and the other, the Indian Readership Survey, was begun in 1994. The sample size for each is approximately 200,000 households.[264] Rural households are included but not in numbers proportionate to their share of the population. One participant in the National Readership Survey consortium is the Indian branch of the Audit Bureau of Circulation, which has members in many other parts of the world. The Audit Bureau of Circulation, which brings together publishers and advertisers to certify newspaper circulation figures, gave a press release prior to the publication of the most recently published National Readership Survey. The survey substantiates the claim that English-language readership is attitudinally different from vernacular readers on a host of vectors. For example, the results show that whereas 33% of non-English language press readers are "more likely to be willing to pay for quality" in spending decisions, whether for consumer durables or public services, 38% of English press readers can be characterized this way.[265]

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[263] Kumar Gaurav and Mayank Singhal, "Bhagidari: Good Intention, Bad Implementation?" Centre for Civil Society Working Paper 0048 (New Delhi: CCS, 2003).
[264] "Taking stock of eyeballs," January 8, 2004, *The Economic Times*.
[265] "Taking stock of eyeballs," January 8, 2004, *The Economic Times*.

The extent of newspaper penetration is highest in the Indian state of Kerala and is second highest in Delhi.[266] In Delhi, the Hindi-language *Navbharat Times* has the highest readership followed by two English language dailies, the *Hindustan Times* and the *Times of India*. If the city of Delhi is disaggregated into four areas, however, the Hindi paper has the highest readership in the north, west, and east zones but among readers in the southern zone, which is comprised of the most affluent areas in the city, the English papers are preferred.[267] These factors suggest that the English-language press is more likely than the vernacular press to both inform and represent the views of Delhi's wealthier citizens. This press was a tireless critic of public utilities and advanced the idea that privatization of utilities was a worthy goal. The following editorial, which was printed a year after privatization, is representative of this kind of thinking:

> As for urban centres, people now perceive lack of development in terms of opportunity costs. Take, for instance, the Delhi voter. Sheila Dikshit, the only Congress chief minister to buck the anti-incumbency wave this time, had the courage - albeit with prodding from the Supreme Court - to undertake measures that could be perceived in an earlier era as anti-people. In fact, each one of them - whether it was the transfer of polluting units out of Delhi, the switch from diesel to compressed natural gas for public buses, the privatisation of electricity - was controversial and even created mass unrest on occasion. Yet, people began to perceive the benefits of such initiatives and, over time, even claimed ownership of them. This shift in popular perception is what Dikshit's opponent, Madan Lal Khurana, could not discern. He persisted with his old-style politics and paid the price for this. In fact, even the bait he offered of cheaper electricity did not work. An aware urban community like Delhi voters now knows that political sops of this kind are the surest route to deprivation in the long term. They would rather pay the cost of supporting a vital utility like power generation plants than be deprived of reliable electricity supply.[268]

[266] "Urban readership base grows 52 pc," July 7, 2001, *Financial Times*.
[267] "Navbharat Times most read newspaper in Delhi," March 22, 2004, *The Economic Times*.
[268] "Politics after reform," December 6, 2003, *Indian Express*.

Similar sentiments were expressed in the months leading up to the privatization. The two most widely read English-language papers in Delhi, *Hindustan Times* and *Times of India*, published news stories as well as editorials with a bias in favor of privatization. One story in the *Times of India* notes that "for the common Delhiite…the news of the privatisation of Delhi Vidyut Board's distribution sector comes as a relief."[269] The "common" citizens with which the article is concerned and whom the writer goes on to interview reside in neighborhoods like Chittaranjan Park, Vasant Kunj, and Model Town, all affluent areas of Delhi. A common thread running through these published comments on Delhi's public services is that they are incongruous with the profile of a national capital, and that the experience of private utility service in Mumbai suggests a better alternative.

Those close to the actual privatization process in Delhi also suggested that electoral pressure was a significant factor in explaining the outcome. One bureaucrat called the "rapidly growing dissatisfaction with supply…the prime factor" explaining the Delhi's government's decision to privatize.[270] The main architect of the privatization program from the bureaucratic side was the former chairman of the Delhi Vidyut Board, Jagdish Sagar. According to Sagar, the fact that Delhi was the one urban place with serious infrastructure problems compelled the government to opt for privatization. Just after coming to power in 1999, the Congress government led by Sheila Dixit published a

[269] Shivani Singh, "DVB Privatisation should work" *Times of India*, June 1, 2002.
[270] Author's interview with Gajendra Haldea, October 6, 2003, New Delhi. At the time of the interview, Mr. Haldea was at the National Council of Applied Economic Research in New Delhi, but had previously held bureaucrat posts in various government ministries, including the Finance Ministry. He was also an early drafter of the national Electricity Reform legislation.

strategy paper on the power sector that eschewed the use of the politically-loaded term "privatization" and instead called for a vaguely worded "joint-sector" approach. The paper was silent on the issue of whether the government or the new private owners would have controlling stake. By the following year when the Delhi reform legislation was passed the government explicitly used the term "privatisation," confident that the public would support the sale.[271]

Although under Sagar's direction, the performance of DVB improved, Sagar himself insisted that there were limits to what he could do. Politicians and bureaucrats also expressed the view that a state enterprise could not tackle theft of electricity as effectively as a private corporation, which provided another impetus for privatization. The minister for power and transport in the Delhi government, Ajay Maken, argued that "a democratic set-up has its own limitations. We [the government] can't go all out against power stealers, otherwise we will be inviting the wrath of the people in the elections."[272]

Industrial protest: exiting the grid

Most industry relies on electricity as a critical component of production. The high cost, dearth, or poor quality of electricity supplies can force firms to supplant or supplement utility supply with their own private generation, called captive power supply,

[271] Interview with Jagdish Sagar, September 23, 2003, New Delhi. Once the DVB was broken up, Sagar was appointed the new chairman of Delhi Transco, the publicly-owned electricity transmission company.
[272] Interview with Maken, quoted in "A democratic set-up has its own limitations in checking power theft," *Financial Express*, April 28, 2002.

which is an option that Indian firms have pursued in most states. The electricity sector is one characterized by steep economies of scale, which means that the decision to move away from public supply is not a lightly taken or easily afforded one. According to one survey of industry in three Indian states, private power generators constitute 12 percent of fixed costs.[273] Nevertheless, this is an option that many in industry pursued, preferring it to erratic supplies from the grid.

Table 20: Progress of Installed Electricity Generation Capacity of Captive Plants (1 MW & above) in Industries

Year	Total (MW)	% increase from earlier period
1950	587.85	
1955	723.51	23.1
1960	935.37	29.3
1965	1061.39	13.5
1970	1417.43	33.5
1975	2028.57	43.1
1980	2859.51	41.0
1985	5120.26	79.1
1990	8115.73	58.5
1995	11164.05	37.6
2000	15336.20	37.3

Source: Figures taken from Central Electricity Authority, *All India Electricity Statistics, General Review 2005*. New Delhi: Ministry of Power, Government of India, Table 4.10. The last column was calculated.

From 1950 to 2000, the installed capacity of captive power plants in India increased from 587.85 MW to 15336.20 MW, and the rate at which industries pursued captive power supplies accelerated over the period. This trend is first noticeable in the 1970s, which coincides with the first push towards mass electrification in the countryside and the rise of cross-subsidies. As the demands on scarce electricity resources had to be shared with an ever-expanding number of consumers the quality and surety of power supply decreased. Industrialists responded by turning to captive power generation.

[273] The survey was carried out by the Confederation of Indian Industry in collaboration with the World Bank. The results were quoted in World Bank (2003) "Pilot Investment Climate Assessment: Improving the Investment Climate in India," p. 55.

Deserting the grid has been as common in Delhi as in other states.[274] As one section in the introduction of this thesis mentions, the rates charged for industry in India are significantly higher than in other countries due largely to a system of cross-subsidies. While cross-subsidies exist in most Indian states, the cost of power supply for industry was even higher in Delhi than in other states. Table 5 below lists comparative figures for electricity tariffs charged for industrial consumers in Delhi and India. Although the tariffs for industrialists decreased significantly during the period leading up to privatization, they still remained above the all-India average, which continued to climb.

Table 21: Electricity Tariffs for Industry (paise per kWh)

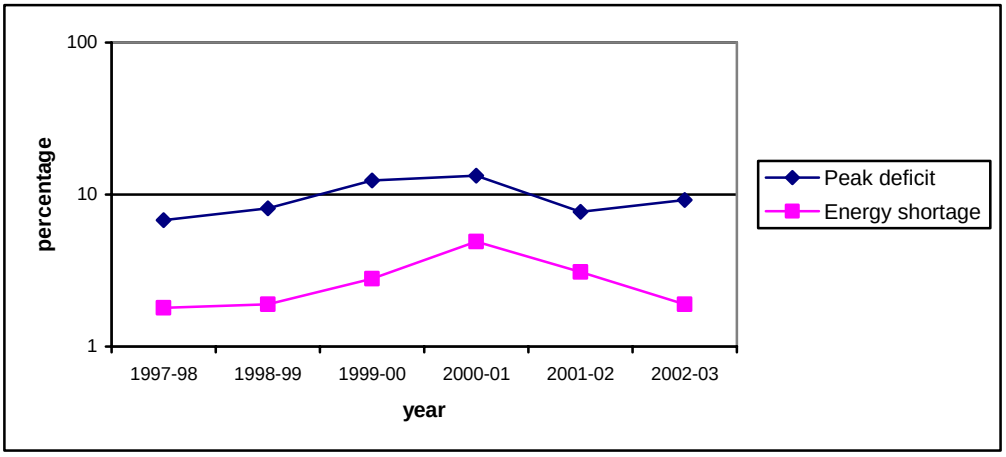
Year	Delhi	Average
1997-1998	492.12	314.63
1998-1999	384.56	324.33
1999-2000	403.33	343.37
2000-2001	424.80	368.37

Source: Planning Commission, *Annual Report on the Working of the State Electricity Boards & Electricity Departments*, Government of India, June 2001, Annexure 4.28.

Along with cost, availability and reliability of power supply are important factors for industrial consumers. The gap between supply and demand in Delhi was also wide, more so than in other states. The balance of energy is affected by a number of factors, including the technical and managerial performance of the utility, the quantum of energy that the utility purchases from outside sources as opposed to generates internally, the mix of hydro and thermal power, and economic growth rates. The following graph illustrates the energy shortage and the peak deficit in Delhi.

[274] Statistics on the growth of captive power for specific regions were not available from either the Central Electricity Authority, which collects country-wide statistics, or the former Delhi Vidhyut Board.

Figure 1: Gap in energy supply and demand in Delhi



Source: Ministry of Power, "Power Sector Profile: Northern Region."

The average peak deficit in Delhi for the six year period from 1997 to 2003 is 9.6, which is significantly higher than in many other states. The average peak deficit for the same six year period in Delhi's neighbor to the north, Haryana, is 2.9 percent. The other states that had similarly high gaps between demand and supply were others with higher than average economic growth rates, like Gujarat and Maharashtra. In Maharashtra, the average peak deficit for the same six-year period is 15.8 percent while the figure is 14.5 percent in Gujarat. In both of those states, however, many industrial consumers are located in and around the urban centers of Mumbai in Maharasthra, and Surat and Ahmedabad in Gujarat, all three of which have been served by private electric utilities even during the heyday of public ownership. These electric utilities historically have delivered a more reliable electric supply, less subject to planned and accidental outages.

The World Bank and the Confederation of Indian Industry, one of India's largest business associations, jointly carried out a survey of Indian industry in 2000 and 2003.[275] The Bank used the results of the survey, along with information from the Annual Survey

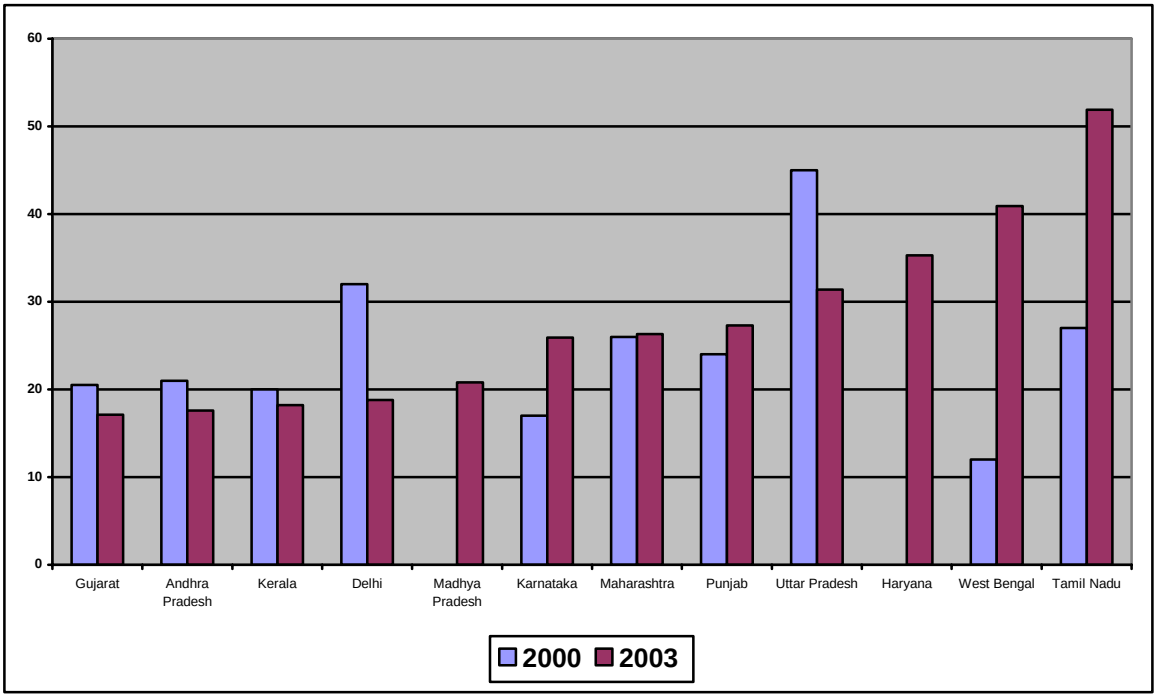
[275] *India: Investment Climate and Manufacturing Industry*. Washington DC: World Bank. November 2004.

of Industries produced by the Indian government, to produce a report on the investment climate in the major urban centers of twelve states. The study aims to investigate why some states have been much more successful than others in attracting private investment. The authors make an assumption that investment rates in India have not been as high as possible, based partly on a comparison of India with China and partly on a comparison of high-growth and low-growth regions within India. Although path dependency or historical factors are considered to play a role in the successes of different regions in attracting investment, the study emphasizes that the investment climate, which is shaped by different governmental policies, matters a great deal. For example, the firm-level data used for the study revealed that Indian firms report electricity price as the single most important variable in plant location decisions.[276] The quality of power supply and telephony are other significant factors.

The survey uses two measures to gauge industrial satisfaction with power supply. The first is the percentage of firms in the sample that have their own generator sets on-site as a back-up for disruptions in supply from the public grid. The second is a measure of how many days it takes for a firm to obtain a connection to the public grid. The World Bank survey provides data for the first variable from surveys in 2000 and 2003, which capture industry's satisfaction with power in Delhi prior to and after privatization.

[276] *India: Investment Climate and Manufacturing Industry*. World Bank. p. 7.

Figure 2: Percent of survey respondents that have power supply from own generators

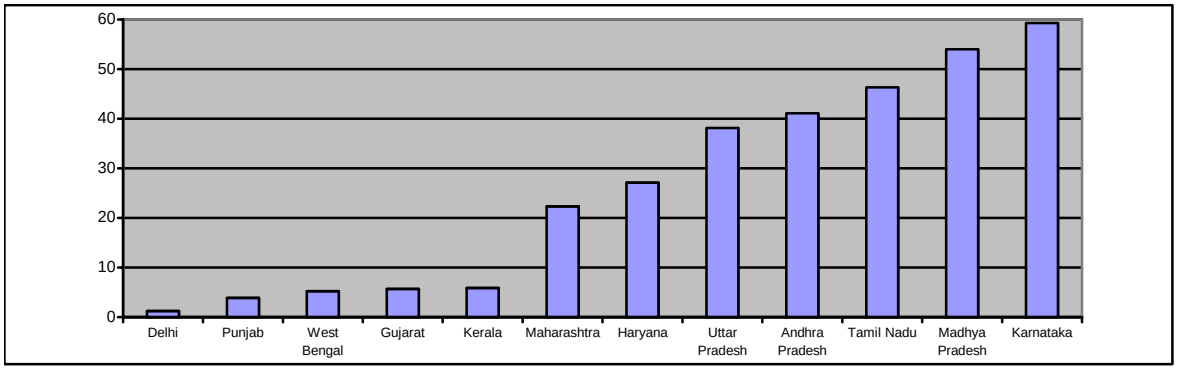


Source: *India: Investment Climate and Manufacturing Industry*. Washington D.C.: World Bank, November 2004, p. 55.

Delhi is one of five states in which manufacturers reported a greater reliance on power from the grid in 2003 than they had three years earlier in 2000. In 2000, Delhi was second only to Uttar Pradesh in the percentage of firms that had their own back-up supplies, signifying that public power was not considered a reliable power supplier by many industrial consumers in those states. This figure declined significantly from 2000 to 2003, falling from over 30 percent to fewer than 19 percent. This represents the most significant decrease in captive power generation of the states included in the study, and the sharpest improvement of utility performance from the perspective of industry. Privatization encouraged industrial consumers of electricity to reverse their long exodus from the grid.

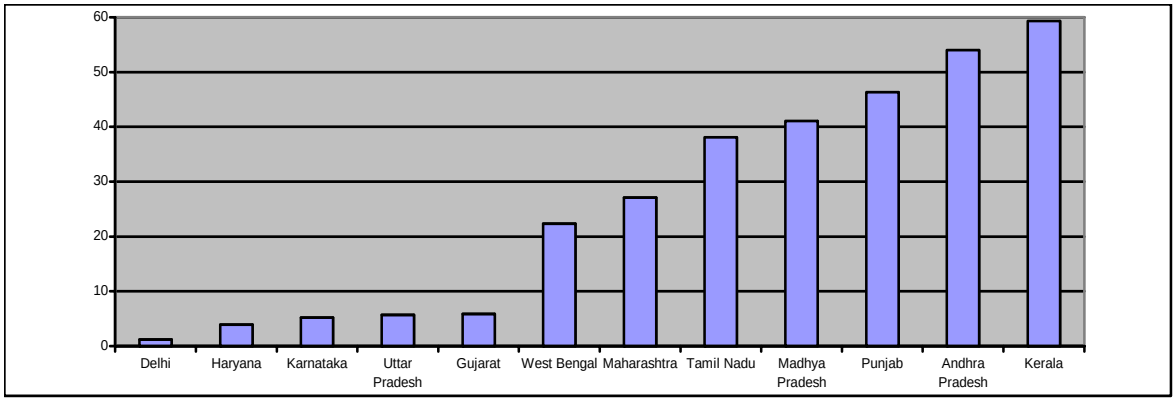
By 2003, manufacturers reported much greater satisfaction with power in Delhi than in other states, as evidenced by the data in the following two figures.

Figure 3: Percent of respondents identifying power supply as a "major-to-severe" bottleneck to growth



Source: *India: Investment Climate and Manufacturing Industry*. Washington DC: World Bank. November 2004, p. 54.

Figure 4: Number of days to get a new connection to the grid



Source: *India: Investment Climate and Manufacturing Industry*. Washington DC: World Bank. November 2004, p. 56. In the report, the title of the figure is given as "Number of Days to Get a New Power Generator—2003" but the text that accompanies the image states that the figure represents "the number of days needed to obtain a new connection to the public grid" (p. 51).

Figure 3 represents the percentage of respondents who list power supply as a major bottleneck for future growth, while Figure 4 gives the average number of days that were needed to obtain an electricity connection. No comparable figures for power as a bottleneck to growth and number of days required to obtain a new connection are

available from surveys taken in 2000. One might infer, however, given the improvement in power supply in Delhi represented in Figure 2, that the numbers for Delhi given in Figures 3 and 4 also show improvement compared to what they would have been in 2000. Privatization in Delhi might have staunched the emigration of industry from the grid.

The decision to privatize

Delhi's distribution companies were ultimately privatized in June 2002. However, this was not the first time that a privatization idea had been floated. In 1992, a consortium composed of an Indian conglomerate, the Modi Group, and Electricite de France—France's electric power behemoth—offered to purchase the transmission and distribution segments in the southern parts of Delhi. The offer was not appealing to the Delhi electricity department because South Delhi, which contains the wealthiest suburbs of Delhi, housed the primary revenue-generating areas in the capital territory. The Department requested that the private companies also take up service in East Delhi, where most of the losses were reported. Though the four districts in South Delhi that were part of the offer have approximately the same number of consumers as the districts in East Delhi, the former yield nearly twice the amount of revenues as the latter.[277] In response to this proposal by Modi and EdF, the unions of DESU went on strike on February 9, 1993. The one day strike affected most Delhi neighborhoods, some of which

[277] "DESU pressed to consider part-privatisation bid," *Power Asia, Finantial Times Energy Newsletters*, October 5, 1992.

were without power for twelve hours.[278] According to union leaders, the strike was a significant factor in derailing privatization.[279] Unlike this earlier episode, the successful privatization in 2002 included as a part of the government's plans an explicit negotiation with labor that offered labor unions significant concessions in exchange for their quiescence, which is discussed in greater detail below.

As a partial solution to the electricity problems in the capital territory, which were the result of many factors but also of poor investment in transmission and distribution—there was a shortage of available transmission line for the current needed in the city—DESU had planned to augment transmission supplies by constructing a ring of high voltage transmission wires along the periphery of the city. Power from neighboring states, which was crucial to Delhi's supply, could then be more easily transmitted. The World Bank was financing the project with a 60 million dollar loan.

Over the course of the 1980s, the World Bank, which had been a crucial supporter of the development of electric power systems in developing countries, shifted the terms of its financing. Through a strategy paper published in 1983 and an Operations Directive from 1987, the World Bank outlined the new principles that would govern its lending to developing countries' electric utilities.[280] The new principles included promoting least-cost planning, marginal cost-pricing as the method of tariff determination, and tariffs that would yield internal resources for new investments. An earlier amendment to the ES48

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[278] "Workers Blame DESU," *Power Asia, Finantial Times Energy Newsletters*, March 1, 1993.
[279] This was the view held by D. K. Puri, General Manager of one of the newly private distribution companies, BSES Yamuna. He has held leadership positions in several unions, including the All India Power Engineers Federation, and the North Indian Power Engineers Federation, of which he was chairman at the time of the interview. Author's interview, September 25, 2003 in New Delhi.
[280] *The World Bank's Role in the Electric Power Sector: Policies for Effective Institutional, Regulatory, and Financial Reform* (Washington D.C.: The World Bank, 1993), p. 11.

passed by the Indian Parliament in 1983 required that the state electricity boards earn a minimum of 3% of fixed assets to be reinvested in the operations of the board. This provision of the law had been almost universally ignored by the SEBs and state governments alike. In putting the new principles governing electricity sector lending into practice in India, the World Bank required that DESU first earn its statutorily mandated 3% rate of return on fixed assets. For failing to comply, the Bank first delayed and ultimately cancelled its loan to DESU.

By transforming DESU, a municipal department, into DVB, an autonomous public enterprise, some had hopes that the performance of the utility would improve through radical changes in its work culture and human resources management.[281] Such changes did not materialize and the proposal to privatize resurfaced again in 1998 and 1999. The transformation of DESU into DVB was necessary as a first step toward privatization. It was also part of larger transformations effected by legislation passed in 1991 that provided for a legislative assembly and council of ministers for Delhi, which gave Delhi an administrative set-up that resembled more closely the one found in other states.

Elections in 1998 brought a new, Congress-led government to power in Delhi. The two years prior to the election had been among the worst in terms of power crises in the capital. On New Year's Day in 1997, Delhi faced its longest blackout to date, which lasted sixteen hours.[282] A few weeks earlier, a twelve hour blackout had affected Delhi

[281] Author's interview with Jagdish Sagar, September 23, 2003, New Delhi .
[282] "Indian capital faces further blackouts over 257m dollar unpaid bills" *Agence France Presse* February 3, 1997.

along with seven other states in northern India. Also, in 1997, the central government-owned National Thermal Power Corporation threatened to curb off electricity supplies to Delhi unless its outstanding balance was settled. This represented a new strategy by the central government to force reforms at the state-level. The Delhi government was more sensitive to this coercion than other states because it possessed a relatively meager share of its own electricity generating resources.

The Delhi Electricity Reform Act was passed by the Delhi legislative assembly in 2000. Broadly, it called for "the restructuring of the electricity industry, rationalisation of generation, transmission, distribution and supply of electricity, increasing avenues for participation of private sector in the electricity industry and generally for taking measures conducive to the development and management of the electricity industry in an efficient, commercial, economic and competitive manner."[283] It also called for the unbundling of the vertically-integrated utility into separate transmission and generation companies that would continue to be in the public sector, and three distribution entities that carved up the Delhi territory into three distinct territories.

At the same time that the legislative assembly enacted reform legislation, the government removed a second hurdle to privatization by negotiating with labor representatives. The government and the DVB managers signed two separate tripartite agreements with the representatives from one engineers association and an umbrella organization of disparate union groups in the utility.[284] The main facets of the two

[283] "Delhi Electricity Reform Act, 2000," Government of Delhi.
[284] The two agreements were titled "Tripartite agreement between the government of NCT of Delhi, Delhi Vidyut Board and DVB Junior Engineers Association" and "Tripartite agreement between the government

agreements, the texts of which are identical, ensure that privatization will not be accompanied by employee retrenchment; the terms of employment (including salaries and benefits) will remain unchanged; the Delhi government will create a pension fund to cover the pension liabilities of the soon-to-be defunct DVB; and that pension obligations for former employees would continue to be met.

Privatization in Delhi took a different route than in Orissa, the first state to privatize electricity distribution, partly as a result of perceived flaws with the Orissa model. For this reason, the sequencing of privatization initiatives, that privatization in Orissa preceded Delhi's privatization, is important to understand the contours of each plan. Whereas Orissa had followed a model largely established by the World Bank and international consulting agencies, the Delhi arrangement was largely conceived by bureaucrats working in the sector. The main conceptual difference between the privatization programs in Orissa and Delhi was that in the latter, local conditions were meant to more forcefully dictate the terms of the process.

The main problem with the functioning of the sector in Delhi, and according to senior bureaucrats the main reason that privatization was the optimal solution, was the large percentage—almost half by some estimates—of electricity that was either lost or stolen during distribution. According to the senior bureaucrat in the sector, although the performance of the utility had improved in the years preceding its privatization, there would be no way to continue the improvements if the upcoming state elections returned the opposition party to power. The utility's managers had the freedom to improve

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of NCT of Delhi, Delhi Vidyut Board and Joint Action Committee of Workers, Supervisors, Engineers and Officers of DVB."

performance only at the whim of the state's political masters. The best long-term solution, therefore, was the remove the potential for political intervention.[285] The reform legislation termed these losses AT&C (Aggregate Technical and Commercial losses). The goal of the legislation was the gradual reduction of these losses to a more manageable level. To obtain this goal, the government asked companies to bid on the utilities according to how much they could reduce the losses in the system over time rather according to how much they would pay for the each 51% share of the utility. The government specified minimum acceptable AT&C reduction targets for each distribution territory based on the types of consumers in each.

The price of each distribution utility's assets was determined by the government, but not on the basis of actual inventory of assets. The accounts of the utility were neither rigorously maintained nor audited by independent agencies. Therefore, the government made three assumptions in determining the values of the newly created distribution companies. The first was that the distribution businesses would become profitable after a period of five years, the second that consumers would not be subject to enormous tariff increases, and the third, critically, was that the government would continue to support the private utilities up to 26 billion rupees over the subsequent five years. The enormous debt of the erstwhile DVB, on the other hand, was transferred to a newly created government holding company.

Out of six pre-qualified bidders, only two continued the process to submit formal offers. These were BSES Ltd., the power subsidiary of Reliance Industries, and Tata

[285] Author's interview with Jagdish Sagar, September 23, 2003, New Delhi.

Power Company Ltd., owned by the Tata group of companies. BSES bid for all three zones, while Tata Power Company made offers to purchase the North-Northwest and South-West distribution segments, the two relatively well-off zones. Neither of the two companies, however, met the minimum reduction targets established by the government. The government had sought AT&C reductions of 20% over a five-year period and the bids submitted by Tata and BSES promised only 12 to 13% reductions. The private companies also sought additional safeguards to ensure that their new businesses would be profitable. Chief among these was the insistence that the government guarantee a 16% rate of return on their investment for a period of 30 years.

After negotiating for two weeks, the government and the two private companies found an acceptable compromise. At the behest of the private companies, the government agreed to pass legislation making theft of electricity a criminal offense, and increased its subsidy from 26 billion rupees to 34.5 billion rupees. Tata and BSES agreed to increase their reduction targets to 17% in two zones and 17.25% in the remaining zone, and dropped their request for a guaranteed rate of return for 16 years.

Critics of the privatization program from the left focused on several facets of the privatization program. First, privatization was costly to the Delhi exchequer. The large subsidy amount was far higher than the government had been paying when the utility was publicly-owned. In addition, there were too many other concessions granted to the private players that transformed what was intended to be a competitive bid into a bilateral negotiation. Finally, those opposed to neoliberal reform considered the privatization of a

public service like electricity to be a sign that the state was abandoning its traditional role of working towards equity in development.[286]

Proponents of market reform, on the other hand, argued that by creating three non-contiguous distribution entities, the government was perpetuating the problems of monopoly service, which according to these critics, was the root cause of DVB's inefficiencies.[287] The privatization should have introduced competition, which according to these critics, is the only way to ensure progressive efficiency gains and lowered tariffs.

As an earlier section on electricity consumption by industry suggested, the price and quality of electricity provided to industry did improve sufficiently for many to return to the grid. Most other consumers, who also expected the situation to improve, were disappointed. The two private companies took over distribution functions on July 1, 2002. Less than one week later, the capital again suffered a severe power crisis.

Conclusion

As in the previous chapter on Orissa, this chapter on Delhi has focused on the set of internal political economy considerations that made privatization a favorable policy for the Delhi government to pursue. The periodic protests by Delhi consumers—mostly middle class ones—over the dismal state of electricity supplies made public ownership more of a political liability than an asset. Similarly, industrial consumers benefited from

[286] Prabhir Purkaystha, Interview, October 23, 2002, New Delhi. Activists and scholars from the Delhi Science Forum, including Prabir Purkayastha, exemplify this stance.
[287] Gajendra Haldea, "Blackouts Ahead, Private monopolies are a dim idea" *Times of India* December 31, 2001; the Centre for Civil Society based in New Delhi made similar judgments.

an ownership change that promised to lower their electricity rates and improve the quality of supply.

The common denominator linking Delhi and Orissa is the lack of a sizeable and politically influential agricultural consumer base that benefits from agricultural subsidies in other states. The next chapter turns to examine Maharashtra, a state where agricultural production, especially of water-intensive crops like sugarcane, had become thoroughly reliant on the provision of subsidized electricity, which was used to draw groundwater to the surface.

Chapter 5: Maharashtra: Maintaining the status quo

Introduction

In both Orissa and Delhi, privatization was carried out in the absence of the rural interests that had come to benefit from electricity subsidies in other states. By contrast, in Maharashtra agricultural subsidies—for water, electricity, and price supports—are important as a means to bind the state government to the larger commercial farmers and agro-industrialists, particularly in the western districts of the state. The existence of a politically influential rural class is significant in explaining why the government of Maharashtra never took up the privatization mantra being repeated elsewhere.

One Indian political scientist has observed that politics in Maharashtra represents a tacit understanding between the economic power in the state, concentrated in Mumbai, and political power, held by a rural elite.[288] The history and current politics of the electricity sector too supports this thesis, where the state was one of the few in India with a mixed public-private structure utility ownership. Private utilities served the most lucrative market, in Mumbai, and a public utility that subsidized prices for farmers served the remainder of the state. Another scholar has observed that while the "expansive elite" in the countryside are a powerful force in the state's politics, their role is "more reactive

[288] V. M. Sirsikar, *Politics of Modern Maharashtra* (New Delhi: Orient Longman, 1995).

than initiatory."[289] What the rural elite exercise is a significant veto power over policies detrimental to their interests.

The state of Maharashtra occupies a portion of the west coast of India, continuing far inland into what is known as the Deccan plateau. It is made up of several regions, each with a distinct economic base, resource profile, and history. These differences among the regions have affected the nature and distribution of political power and resource allocation in the state in important ways. The state is one of the largest in terms of both territory and population, and by most measures, it is also among India's most developed and wealthy states. The capital city of Mumbai (formerly Bombay)[290] and its environs host the country's important financial, entertainment, real estate, and manufacturing sectors.

For many reasons, the state was considered a ripe setting to experiment with the "World Bank model" of electricity reforms in the mid-1990s. From its creation in 1960 to the early 1990s, Maharashtra's government and bureaucracy had a general reputation for effectiveness, and the state also enjoyed a good reputation with international donors. Maharashtra was the beneficiary of a large World Bank loan to its energy sector in the early 1990s, a time when the World Bank had already expressed its dissatisfaction with the performance of other SEBs by withholding financial aid. That the state's political elite from multiple parties were not averse to the entry of new private capital is amply demonstrated by the story of the state's negotiations with the Enron Corporation to build

[289] Donald B. Rosenthal, *The Expansive Elite: District politics and state policy-making in India* (Berkeley: University of California Press, 1977), p. 13.
[290] The city's name was changed from Bombay to Mumbai in 1995.

a gas-fired power plant in the coastal district just south of Mumbai. Finally, one of the main justifications for continued state-ownership—making access to electricity more inclusive by taking up the expensive task of rural electrification—was at least notionally no longer valid since the state claimed to have achieved full electrification by the late 1980s.

Despite these seemingly ideal conditions for privatization, no such experiment was carried out, nor was the state's SEB vertically unbundled until after passage of the Electricity Act 2003 by the central government, a piece of legislation that mandates the dismantling of SEBs. In the case of Maharashtra, the challenge is one of explaining the lack of an expected policy change. In this chapter I suggest that the same set of political imperatives that operate today in Punjab, which are briefly described at the very outset of the thesis—keeping production costs low for farmers even at the risk of stalling or eliminating industrial production—explain energy policy in the state of Maharashtra.

Although the story is a complex one, involving multiple actors and influences, I suggest that one of the most significant reasons that the state resisted privatization lies in the political influence of rural Maharashtra, which effectively closed off the possibility of Maharashtra following or leading the path of liberalization taken by Orissa and Delhi. Specifically, my argument to explain the lack of distribution privatization in Maharashtra is two-pronged.

The first reason for the lack of privatization lies in the strong links between urban and rural political and economic elites in Maharashtra, links forged in part because of the socio-political implications of caste institutions and identities in the state, and which

became stronger during the 1990s because of changes in Maharashtra's electoral environment. Many state governments, including Andhra Pradesh and Tamil Nadu, began the populist fashion of granting consumption subsidies for water, staple grains, and electricity beginning in the 1980s. Often, these decisions were made in the context of increasingly competitive state electoral politics, as regional political parties emerged to displace the dominant Congress party. Maharashtra remained one of the last bastions of unchallenged Congress hegemony until well into the 1990s, much later than most parts of India. Perhaps for this reason, although goods like electricity were subsidized to some extent in Maharashtra, Maharashtrian farmers still paid more than their neighbors across state boundaries. But although prices were not deflated to the extent that they were in other states, the volume of subsidized goods consumed by rural Maharashtra outweighed that in many other states.[291]

Furthermore, selective distribution of electricity was still important as a means of favoring some regions and some interests in the state over others. Specifically, electricity became important in the cultivation and processing of one of the state's most important cash crops, sugarcane. By extending electricity throughout Western Maharashtra, sugarcane cultivation and then processing of cane in cooperative factories became extremely profitable activities.

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[291] Ashok Gulati and Sudha Narayanan, *The Subsidy Syndrome in Indian Agriculture* (New Delhi: Oxford University Press, 2003), pp. 105-106. The authors calculate the subsidies in fertilizer, irrigation, and power to Indian agriculture for each state. In 2000-02, while the per unit subsidy in Maharashtra (Rs. 2.49 per kWh) is less than the all-India average (Rs. 2.57 per kWh), the total quantum of subsidy in Maharashtra, thanks to the greater consumption of power by agriculture, is the highest in the country after Gujarat, although it ranks as the second largest state by population. If the 17.7 million residents in the megacity of Mumbai—the largest in India—are removed from the population tally, then Maharashtra drops in rank to the fourth largest state, after Uttar Pradesh, Bihar, and West Bengal.

Once the Congress's domination of politics came to an end in the 1990s, parties began granting overt subsidies for favored constituencies, including electricity, as a way of extending and consolidating their "vote banks." In a climate of more competitive state-level politics, no political party wanted to embrace a policy—utility privatization—that would be unpopular with the important, wealthy, and politically well-connected constituency of large, commercially-oriented farmers.

By the late 1990s, the ties between the state and rural actors were such that the interests of Maharashtra's large farmers, who are the primary beneficiaries of the electricity subsidies, in maintaining subsidized electricity were easily protected. The particular history of caste and class formations in Maharashtra, distinct from other parts of India in their historical development and their current functioning, is one part of the story of why the rural lobby exercises greater strength in this state than in other Indian states.

Secondly, unlike in Delhi, the bulk of Maharashtra's middle-class urbanites, who reside in Mumbai and whose dissatisfaction with power scarcity and black-outs might have spurred politicians to consider privatization, were in a sense neutralized because the Bombay utilities were already privately owned. The Tata Power Company (TPC) and the Bombay Suburban Electric Supply Company (BSES) were among the handful of private distribution and generation systems that were never nationalized in the decades after independence. The TPC, a part of one of India's oldest and largest industrial conglomerates, generates power and is a bulk supply company in Maharasthra. BSES distributes electricity to residential consumers in metropolitan Mumbai. Starting in the

late 1980s and continuing throughout the subsequent decade, Reliance Industries, another of India's largest business houses, acquired majority stake in BSES. The two together are considered the most politically influential business houses in India currently.

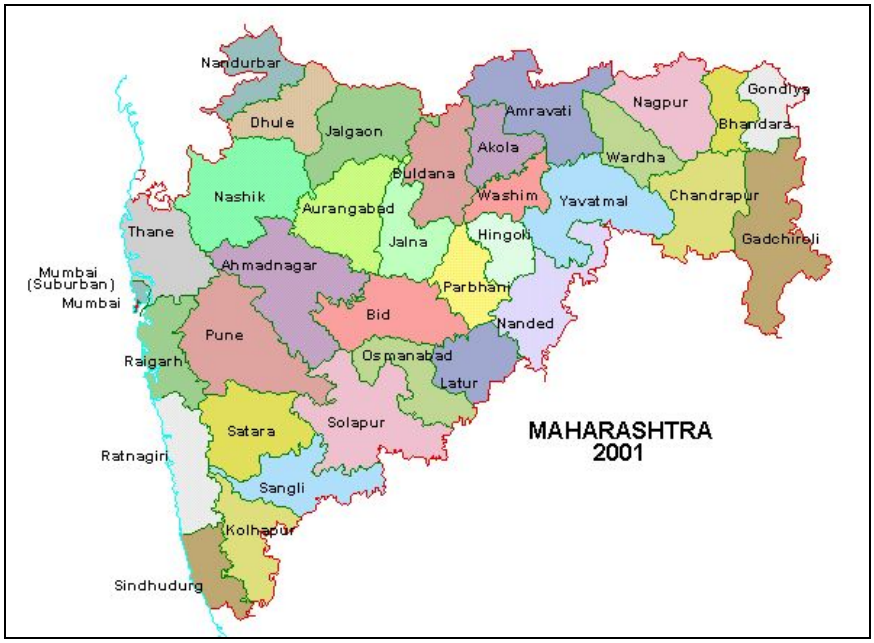
There are several additional reasons that are important to note in understanding why Maharashtra was able to hold out against the dominant model of reform advocated by the central government and the World Bank. The first is the state's substantial generating capacity.[292] Unlike Delhi and Orissa, Maharashtra had built thermal and hydroelectric facilities that insulated the state from pressure from the central government. Additional factors that played into Maharashtra's resistance to reform include the presence of concerted opposition from labor unions and vibrant civil society organizations that trained their attention on the energy sector. Labor unions, which played a negligible role in Orissa and Delhi, were stronger in Maharashtra for a number of reasons. Maharashtra's unions—larger and more organized than elsewhere—learned and organized in response to the earlier privatization in Orissa. Had the state government wanted to proceed with privatization, however, there is no prima facea reason to believe that a tripartite agreement like the ones employed in both Delhi and Orissa would not have succeeded in the case of Maharashtra as well.

[292] The lack or presence of self-sufficiency in energy supplies, while important at the margins, can't be considered the most significant reason that states privatized or did not, as I discuss in the introductory chapter. Energy dependence can be considered a necessary but not sufficient explanation for reform, because although Orissa and Delhi as the only privatizing states, were both reliant on external sources, other dependent states, like Bihar, did not privatize.

Patchwork Maharashtra: History and Geography

Prior to 1960, present-day Maharashtra and Gujarat were governed together in a composite region called Bombay Province, the boundaries of which were largely inherited from the British administrative structure. Following independence in 1947, social movements across India demanded that states be reorganized following linguistic borders. In 1960, the efforts of one such movement in the Marathi-speaking territories, the Samyukta Maharashtra Samiti (Committee for a United Maharashtra), succeeded in splitting Bombay into Maharashtra to the south and and west, and Gujarat to the north, with the capital of the former located in metropolitan Bombay.

Modern Maharashtra is a heterogeneous mix of regions with distinct natural and historical characteristics. The three primary administrative regions of the state are denoted as Western Maharashtra, which includes the city of Mumbai (formerly Bombay), the Konkan littoral, and the Sahyadri mountain range and which was part of British Bombay; Marathwada, formerly part of the Nizam's Hyderabad, an autonomous princely state that included much of present-day Andhra Pradesh; and Vidarbha, composed of former British Central Provinces and Berar, also once part of Hyderabad. Scattered throughout these three primary regions are former autonomous princely states.



Map 3. District map of Maharashtra, 2001
Source: Office of the Registrar General, India
Copyright: Public domain

The topography and climate of Maharashtra's regions vary as much as their historico-political antecedents. The coastal strip that runs along the western length of Maharashtra from north to south feels the brunt of the annual southwest monsoon. The quality of the land is inferior to other parts of western Maharashtra, although there is cultivation of cash crops like mangoes and coconuts. Separating this strip from the remainder of the state are the Sahyadri mountains, whose uneven topography is balanced by heavy rainfall and rich soil. The Deccan plateau comprises the remainder of the state; parts of this get less concentrated rainfall during the monsoon but get rain during other parts of the year as well. Other parts are arid and easily susceptible to drought. The Marathwada region is one of the poorest in the state. Part of former princely Hyderabad, the region did not benefit from colonial-era development of irrigation structures like other princely states did, notably princely Mysore (in present day Karnataka) and Travancore

(in present day Kerala) to the South. A large part of the land was under the *zamindari* system in which individuals were given the rights to collect taxes for large tracts of land, which enabled them to effect a great deal of control over villages in their territory. Under this land tenure system, much of the agricultural surplus was extracted from cultivators and very little returned to the land in the way of agricultural investments. Most of Western Maharashtra, in contrast, had a *ryotwari* system, in which state revenues were collected from individual cultivators. The effects of the different kinds of land tenure arrangements in colonial and pre-colonial India continue to be seen in present-day landholding patterns and economic outcomes.[293]

Several features of Maharashtra's social composition and political history distinguish it from other parts of India, and are critical in the unfolding trajectory of political life in the state. Foremost among this is the nature of the region's dominant caste of *Marathas*. Indian sociologist M. N. Srinivas, in an enormously influential work, wrote that

> a caste may be said to be 'dominant' when it preponderates numerically over other castes, and when it also wields preponderant economic and political power. A large and powerful caste group can be more easily dominant if its position in the local caste hierarchy is not too low.[294]

[293] Abhijit Banerjee and Lakshmi Iyer, "History, Institutions, and Economic Performance: the Legacy of Colonial Land Tenure Systems in India," *American Economic Review* Vol. 95, No. 4 (September 2005):1190-1213. The research finds that the British territories ruled by *zamindari* or landlord, continue to have lower economic outcomes than districts that were characterized by *ryotwari* or individual cultivation. Although the research can't confirm a mechanism, the authors speculate that the zamindari districts probably have greater class conflict and therefore higher barriers to collective action than areas which had seen less inequality in earlier decades and centuries. Banerjee and Iyer analyze only the British colonial territories. The areas of Marathwada, which were part of the *zamindari* system of the Nizam's rule, are most likely comparable to the British territories under *zamindari*, since after all the British mimicked the Mughal revenue systems.

[294] M. N. Srinivas, "The social structure of a Mysore village" in *Village India*, ed. McKim Marriott (Chicago: University of Chicago Press, 1955), p. 18.

This definition applies very neatly to the Marathas, who today represent the largest caste grouping in Maharashtra and from whose ranks emerge the majority of the region's political and landowning elite.

Political antagonism between Brahmins and the numerically preponderant *Marathas*, (or the Maratha-kunbi caste cluster as it is sometimes called), is an especially important feature of the state's pre-Independence political history, and constructions of caste identity that grow out of the earlier period continue to shape Maharashtra's post-Independence politics and political economy in significant ways. In western India in the eighteenth and nineteenth centuries, unlike in other parts of India, Brahmins were not only ritually and socially superior but also commanded political and economic power, which they had gradually usurped from Maratha rulers over the course of the seventeenth and eighteenth centuries. Maratha-Brahmin rule, (in the fifteenth and sixteenth centuries, this was known as the Maratha Empire, while in the eighteenth it was known as the Peshwa confederacy, in reference to the Brahmin ministers who were the true wielders of power) was finally defeated by the British in 1818.

During the colonial period Brahmins, who had a near monopoly on literacy, cornered the market of new bureaucratic opportunities in the expanding British government; during the late colonial period, the key nationalist thinkers, activists, and politicians came almost exclusively from among Brahmin communities. During the late colonial period, Brahmin landlords and moneylenders were the target of many peasant agitations. Although these peasant revolts could be read in purely class terms, non-

Brahmin leaders, particularly well-to-do Marathas, saw the benefits of highlighting the role of caste and downplaying the economic bases of such struggles.[295]

Beginning in the mid-nineteenth century and continuing well into the present, a series of lower-caste theorists and activists formulated new challenges to the traditional dominance of the region's Brahmin elite. The political ideas that emerged from this group of radicals were very distinct from larger currents of nationalist thought in India. For example, Joyotirao Phule, arguably the most influential lower caste thinker in the nineteenth century, proposed that a reformed colonial administration could actually be a boon to the lower castes because it provided new opportunities for employment that were outside the traditional division of labor based on caste. Nationalist politics and the goal of independence, according to Phule, was not in the interests of the broader mass of low caste peoples. Summing up this view, one scholar of the period states: "the [Indian Nationalist] Congress represented a spectre that had haunted non-Brahman thinkers since the early 1870s: a political body, dominated by Brahmans and the urban-educated, that was capable of winning for itself an institutionalized position as a mediator between the British government and the larger masses of Indian society."[296] Phule and others who followed in the non-Brahmin movement, particularly elite Marathas, remained outside of the anti-colonial struggle well into the 1930s, preferring to distance themselves from the Brahmin nationalists.

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[295] Livi Rodrigues, *Rural Political Protest in Western India* (Oxford, U.K.: Oxford University Press, 1998), pp. 144-150.

[296] Rosalind O'Hanlon, *Caste, Conflict and Ideology: Mahatma Jotirao Phule and low caste protest in nineteenth-century Western India* (Cambridge: Cambridge University Press, 1985), pp. 284.

Another significant feature of rural caste society in western India is the more porous nature of Maratha caste boundaries relative to other strictly endogamous castes in India. It was not always the case that Maratha as a caste name referred to the large community that it designates today; in the early nineteenth century, there is significant evidence that the term was used to designate a very small group of ninety-six elite families who could trace their lineage to sixteenth-century rulers. Over the course of the late nineteenth and early twentieth centuries, however, as a part of a conscious strategy by elite Marathas, the caste name came to refer to a much larger community of rural peoples that crossed class lines.[297]

At different points in history, elite Maratha families strategically affiliated themselves to lower castes, holding out the promise of upward social mobility to these groups in exchange for their loyalty to Maratha rule. In the 1920s, the Maratha elite undertook the task of officially broadening the borders of the community to include the lower income and lower status *kunbis*. The British census was one useful tool in this effort, as leaders exhorted Maratha and kunbi alike to mark their identity as "Maratha-kunbi," solidifying their merger as one large group.[298] The size of this dominant caste is significant; according to some estimates nearing 40% of the total population of Maharashtra. In many electoral systems, a community of this size would be considered large, particularly if its members voted with one voice. But within India's highly

[297] O'Hanlon, *Caste, Conflict and Ideology*, Chapter 2.
[298] Jayant Lele, *Elite Pluralism and Class Rule: Political development in Maharashtra* (Toronto: University of Toronto Press, 1981), p. 55-56.

fragmented electorate, the number assumes even greater significance because it is easier for them to command a plurality.

By the 1930s, as British departure seemed imminent, non-Brahmin leaders began to join the Congress.[299] The expansion of Congress all over India was also due to Gandhi's considerable efforts to broaden the base of Congress to include rural and lower caste elites. After another brief departure of Maratha leaders to form the Peasants and Workers Party in the 1950s, the rural Maratha elite returned to the Congress Party in 1960 and firmly held the reins of the party in Maharashtra from then until the mid-1990s. The means by which the Maratha elite retained control of the Congress, and the reasons that Congress was able to dominate Maharashtra's politics even as the party declined in most other states, owes much to the way that state resources were expended to promote certain kinds of rural development, in particular water-intensive sugarcane crops and cooperative sugar factories, all of which required heavy use of irrigation and electricity inputs.

By the 1990s, I suggest that rural interests, which in Maharashtra are highly organized through caste structures and cooperative institutions, therefore had an incentive in Maharashtra to stave off the kinds of economic liberalization policies that threatened to dismantle rural subsidies. Privatization of electricity was one such policy. In Maharashtra, the rural lobby also excercised considerable influence on state policy. The mechanisms of this influence was both through a broad-based farmers' movement that had emerged in the 1980s and continued to influence events in the 1990s, and because the

[299] Lele, *Elite Pluralism and Class Rule,* p. 52.

majority of Maharashtra's elected officials were either personally invested in agriculture and agro-industries, or were linked to those who did through networks of caste and kinship.

The next section of the chapter narrates the history of electricity in Maharashta, which started in Bombay, to explain why the pro-reform lobbies that were so influential in Orissa and Delhi remained silent in Maharashtra. While utilities around the country were being nationalized, Bombay remained in the hands of private companies.

History of Electricity in Maharashtra: private ownership amid a nationalizing system

The first use of electricity in Maharashtra was in the city of Bombay in 1882, to light Crawford Market, a major center of commerce that continues to thrive. For the next several decades, there was irregular lighting in the Market, on a few major roads, and in municipal buildings, falling into sporadic disuse due to the financial and technical instability of early private generation and supply companies. The Government of Bombay granted "The Bombay Electric License, 1905," after which the use of electricity in the city, while still extremely expensive and therefore sparse, was more regular. In the decades before independence, the majority of the state's electricity was generated by Tata Electric Companies, which comprised Tata Hydro-Electric Power Supply, established in 1910, Andhra Valley Power Supply Company, established in 1916, and Tata Power Company, established in 1919. The electricity that these companies generated was used

primarily by industry and for public lighting in and around the city of Bombay.[300] The Bombay Electric Supply and Tramways Company (BEST) had two small thermal generating units that were eventually closed down in 1926, but the main function of the company was to distribute electricity in the city.[301] After the Tata Hydro-Electric Supply Company was established in 1910, BEST and the Tatas shared electricity functions, with occasional tension erupting between the two. The agreement finally arrived at between the two allowed the Tatas to supply electricity from their generating units directly to factories requiring more than 500,000 units of electricity annually. All other consumers, however, were to be supplied by BEST. BEST was a British-owned operation but the Tatas, though indigenous, had much larger capital assets and more political favor.

BEST, initially registered as both a British company in London and as an Indian company and later, for reasons of economy, as only an Indian company but with a largely British management operated from 1905 until one week before Independence, when it was taken over by the Bombay Municipal Corporation and run as a public sector undertaking.[302] BEST continues to supply electricity to Bombay, now Mumbai, residents. Consumers in suburban Mumbai were supplied electricity by Bombay Suburban Electric Supply (BSES) beginning in 1929. From then until the mid-1990s, BSES purchased power from Tata Power Companies. BSES began to generate its own electricity in 1995.

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[300] Tata Hydeo-Electric merged with two other Tata subsidiaries also in the power sector to become Tata Power Company in 2000. "Pioneers in Power," *Tata Power Company*, company brochure.
[301] Much of the information about the early years of electricity in Bombay is taken from "History of BEST," *The Brihanmumbai Electric Supply & Transport Undertaking*, company history published by the BEST utility offices.
[302] According to "History of BEST," Chapter 6 this was the first nationalization in independent India.

Aside from these private distribution and generation companies in and around Bombay, the region of present-day Maharashtra had several other small generation and distribution companies located in the state's larger cities, like Thane and Pune. The vast rural regions of the state were not electrified until well into the post-independence period. And even still, the residents of Mumbai and its environs use the bulk of all electricity consumed in the state.

The Electricity (Supply) Act of 1948 mandated the created of state electricity boards in each state. Fulfilling this mandate, the trilingual state of Bombay, which incorporated the northern part of current-day Karnataka, and parts of modern Maharashtra and Gujarat, established the Bombay Electricity Board in 1954. The country's federal structure was reorganized along linguistic lines, resulting in the creation of the primarily Marathi-speaking state of Maharashtra in 1960. In the same year the Maharashtra State Electricity Board was created with the overall responsibility for electricity functions in the state.

Electricity plays an obviously critical role in industrial mechanization. In cities, its first customers were local governments, and its first uses were for street lighting and the lighting of municipal buildings. As a network utility, one that relies on the establishment of a common grid, it is in the best interest of the suppliers and generators of electricity to invest resources to add as many consumers as possible up to the maximum electricity output of the generating station. As in most places, potential consumers of electricity—residential and industrial alike—were reluctant to embrace the new technology. To foster a larger residential consumer base, BEST sent canvassers

door-to-door explaining the benefits of the new technology and its applications in the home and factories. In addition to canvassing consumers, BSES also established a show-room in Bombay that displayed and demonstrated early kitchen appliances, an endeavor that was modeled after a similar display in London by the London-based branch of BSES. As with other network utilities, consumption is initially geographically concentrated. Even by the mid-1970s, more than fifty years after electricity became a mainstay in urban Bombay and two decades after the state electricity board was charged with spreading electricity, most of the state was still un-electrified. Whereas Western Maharashtra, primarily Bombay, consumed 84.8% of all electricity in 1973-1974, Vidarbha consumed only 12.8% and Marathwada consumed a meager 2.4%.[303]

The Board's task of rural electrification in Maharashtra was made more difficult by the fact that the largest revenue-generating region in the state was in the city of Bombay, which was in private hands. From the first year of its creation, the Board started operating with a deficit. While on the one hand the Board was pressured by politicians to electrify the state quickly, on the other hand, the most lucrative portions of the state were off-limits to the Board, so it was unable to generate internal resources fast enough to fuel expansion. At the time of its creation, there were only a handful of places with a concentrated potential load that the Board could electrify. These were Akola, Amravati, Ulhasnagar, Kolhapur, Khangaon, Talegaon, and Chand, which were dispersed across the breadth of Maharashtra. Laying transmission lines to connect all of these far-flung cities to the grid would be costly and time-consuming. To counter these financial

[303] Maharashtra Economic Development Council, 1975, *Power Development in Maharashtra, Appendix 33*, (Bombay: MEDC), p. 75.

difficulties, the Board determined to take over the private licensees that operated in the larger towns in the state. This was part of the MSEB plan for the period of the 3rd Five-Year Plan, from 1961-62 to 1965-66.[304] There were three methods by which this occurred. In some rare cases, the Government of Maharashtra revoked the private license for poor service. More often, the Board purchased the assets of the licensee upon expiry of the license.

In some instances, the licensees approached the MSEB to purchase their assets even before the license was due to expire because the undertaking was no longer profitable. Once the MSEB finished laying transmission lines connecting an area in which a licensee was operating to the expanding public grid, the Board was authorized under Section 36 of the 1948 Act to require the private license holder to cease generating its own power and instead purchase power from the Board, which may have limited the profitability of the private firm.

Despite the Board's aggressive takeover program, Bombay—the most lucrative area in the state—was left in the hands of two private companies, BSES and the Tata Power Company, and one municipal company, BEST. This ran counter to the aims that MSEB stated in its annual reports regarding the expansion of its electrification. It was also perceived in outside reports on MSEB to be one of the main handicaps of MSEB relative to other public utilities in India. As even a report prepared by an umbrella organization for private manufacturing and industrial associations states,

[304] Maharashtra State Electricity Board, *Administrative Report 1961-1962* (Bombay: Government Central press), Chapter V.

> It is necessary to appreciate some important constraints within which [MSEB] has to function and over which it has no control. Its cost structure is not fully comparable with other Boards and even private undertakings in view of the fat that highly concentrated industrial and other loads in the State yielding substantial revenue are not with it. On the other hand, it is solely responsible for relatively less remunerative rural electrification programme. This affects its capacity to raise internal resources.[305]

Even as late as 1971-72, the private and municipal utilities that sold power to the concentrated industrial and residential consumers in and around Bombay accounted for the majority of all electricity sales in the state, equalling 58.8% of the total.[306] Of the total sales, 12.8 percent went to Bombay Electric Supply and Transport (BEST), 8.7 percent to Bombay Suburban Electric Supply (BSES) accounted for 8.7, 36.1 percent to Tata Power, and 1.2 to a second small privately-owned municipal utility (Thane Electric Supply Company) located in Thane, an industrial center immediately to the north of Bombay. The utility in Thane was nationalized and became part of the MSEB grid in 1973. The largest of these private firms, Tata Power, both generated and distributed power in Maharashtra, but their distribution was limited to very large industrial consumers, again the most lucrative ones. To get a sense of the relative size of TPC's consumers, consider that in 1973, although Tata Power sold 36% of the electricity in all of Maharashtra, their total customers numbered only 216, or .01 percent of the total private, municipal, and utility consumers in Maharashtra.[307]

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[305] Maharashtra Economic Development Council, *Power Development in Maharashtra* (Bombay: MEDC, 1975), p. 25.
[306] MEDC, *Power Development in Maharashtra*, p. 22.
[307] Calculated from data in Appendices 29 and 30 in MEDC, *Power Development in Maharashtra*.

Given how advantageous it would have been to MSEB to acquire the customer bases of Tata, BSES, and BEST in the concentrated region of Bombay, why were these companies not absorbed when the multitude of small private companies that dotted the country were nationalized in the 1950s and 1960s?

During the debates in the Constituent Assembly, when the merits of nationalization in the electricity sector were being debated, one member remarked:

> "There are powerful vested interests in one or two places which it would be very unwise for us to displace now. Take the Tata interests [in Bombay]; it would be very unwise straightaway to displace it. It would be much better to get a corporation of that nature with its semi-impersonal character to help us in going ahead with our programme of developing electricity rather than tell them, "We are going to take you over", and find ourselves faced with all the difficulty that would ensue in regard to managements and personnel." [308]

The member of the Assembly who made these remarks, T. T. Krishnamachari, was also a member of the Select Committee who met with various stakeholders in the process of drafting the 1948 legislation that nationalized the sector. And yet he suggests that although nationalization makes sense as a general policy, stripping assets from a corporation like the Tatas would be contrary to the country's interests. This decision to carve out exceptions to the policy of nationalization had long-term consequences in Maharashtra.

The consequences of keeping Bombay private continued to be felt decades later, during the period of economic liberalization. Because the area of Mumbai and its industrial hinterlands were served by private distribution and generation companies, neither the industrial consumers that had benefited the most from privatization in Orissa

[308] Constituent Assembly Debates, Vol VI, Part II, 1948, p. 55.

and Delhi, nor the urban consumers that had agitated for better service in Delhi, were concerned about the fate of Maharashtra's publicly-owned electric grid. By the 1990s the rest of the country was just contemplating a return to the public-private mix that characterized ownership patters in the colonial period. But Mumbai along with only three other cities in the country (Kolkata, Surat, and Amdhabad—all either prominent or rising industrial centers at independence), had never abandoned that model, despite the professed commitment to state ownership that characterized the period.

To what extent indigenous capitalists—particularly large industrial capital—supported or not India's planned economy is a recurring debate in the literature on Indian political economy. Some scholarship on this subject, and certainly nationalist histories, emphasize the socialist character of India's political economy that was established by a developmental state with strong backing from Indian capital. Most scholars point to the existence of the *Bombay Plan*, a document published in 1944 and 1945 by a group of India's largest industrialists, including J. R. D. Tata, to suggest that Indian business favored planning. More recent work suggests that India failed as a developmental state precisely because the Indian business class resisted the creation of a strong state with expanded regulatory functions. Chibber, for example, argues that the industrialists who produced the *Bombay Plan* used the document as a way to 1) position themselves as good nationalists at a time when it seemed that the mass protest against colonialism could transform into an anti-private property agitation, and 2) to anticipate and shape the terms of the debate on planning that would follow independence. Far from leading the agenda

of nationalization, planning, and state-led industrialization, he argues, Indian capitalists were crucial to the failure of these programs.[309]

The pattern of nationalization in the electric sector, too, suggests that Indian industrialists had a significant input in directing how state-ownership would proceed. The outcome of nationalization, in which the most lucrative pockets of the electricity sector—the urban, industrialized zones—were preserved for private ownership is further suggestive of this thesis. In addition to the Tata companies that were protected from nationalization, one other company, Killick Nixon and Company, owned the distribution zones in the other industrial centers of Surat, Ahmedabad, and the Bombay suburbs.[310] The company became a public limited company in 1948, floated in the nascent Indian financial markets.[311] Just these four private companies (the three owned by Killick and the Tata Power) and the one private company that operated in Calcutta, Calcutta Electric Supply Corporation, India's other major industrial center, still accounted for nearly one-third of all generating capacity in India and most of the industrial consumption.[312]

The story of Bombay and the power of certain private companies to shape the nature of India's nationalized electricity sector is only one half of the narrative in

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[309] Vivek Chibber, *Locked in Place: State-building and late industrialization in India* (Princeton: Princeton, 2003), particularly Chapters Four and Six.

[310] Central Water and Power Commission, *Public Electricity Supply: All India Statistics 1959-1960* (New Delhi: Ministry of Irrigation and Power, Government of India, 1961).

[311] In 1947, only 197 companies were listed on the Indian stock exchanges, of which seventeen were electricity companies, a considerable share. Ambarish Mukherjee and Nithya Subramanian, "Corporates that have stood the test of time since Independence" *The Hindu Business Line*, January 26, 2003.

[312] Central Water and Power Commission, *Public Electricity Supply: All India Statistics 1959-1960*, p. 15. In 1959-1960, all of the private companies in Bombay State together generated 2,994,676 million kWh, of which almost all would have been in the cities of Bombay, Surat, and Ahmedabad. Private companies in West Bengal generated 1,997,533 million kWh, almost all of which would have been in Calcutta. The total generating in India at that time, including all SEB, municipal, and private companies was only 15,032,953 million kWh.

Maharashtra. This is the part that explains the lack of advocacy for privatization. But given the amount of pressure that the Maharashtra government was under from conditionalities imposed on its loans from the World Bank and the central government, we still have to ask why Maharashtra resisted following a policy that other states in India were already starting to formulate as early as 1993 in the case of Orissa. If the political waters were flowing in the direction of privatization, why did Maharashtra resist?

In the early 1990s, as mentioned earlier, there were signs that at least some among Maharashtra's highest echelon of bureaucrats favored privatization. Just a few years later, the tide had seemingly shifted, and there was no discussion of privatizing distribution, although by then the state had begun complex negotiations with the Enron Corporation to build a large and expensive power plant in coastal Maharashtra. The mid-1990s was also a period when the MSEB's finance's started to decline and came to resemble those of other bankrupt SEBs around India.

The next section illustrates how electricity, in particular rural electrification, had come to play an important role in agricultural production. This feature of Maharashtra's electric industry distinguishes it from the patterns of consumption in Delhi (which had no rural sector) and Orissa (in which agriculture never became reliant on electricity). Understanding this difference is critical to understand the differing policy choices made by these state governments. We begin by surveying the period just before independence through the 1980s, when electrification became increasingly important for irrigation facilities, particularly in some parts of the state and for certain crops.

Agriculture and Electricity

Despite hosting India's largest city, Mumbai, the state of Maharashtra, much like the rest of India, continues to have a larger rural than urban population. According to the most recent Indian census in 2001, Maharashtra's population is 57.6% rural. Most of the state has sufficient rainfall to sustain one crop and some central portions of the state benefit from enough rain for multiple cropping. Agricultural production in Maharashtra has gone through several transformations that have been the result of either technological or institutional changes. In the twentieth century, the first technology to transform the countryside was canal irrigation. Following this, electrification gave farmers access to a second new, cost-effective, and substantial source of irrigation: groundwater pumped via tubewells. The following narrative about agriculture in Maharashtra will focus on two transformative periods, the advent of canal irrigation and later of tubewell irrigation. The latter development was possible only after the state expanded its rural electrification program beginning in the late 1960s. Electricity, therefore, is at the heart of Maharashtra's second agricultural revolution, which had far-reaching implications for politics, agrarian political economy, and the policy choices about privatization of electric utilities in the current period.

The Deccan Canals and the Growth of Maharashtra's Sugar Industry

The development of irrigation can change the economic complexion of agriculture. The change can be more radical in arid or semi-arid regions like the Deccan

plateau that covers most of Maharashtra because such landscapes are most susceptible to delays or absence in seasonal rain. In addition, some of the Deccan areas of Maharashtra fall in the rain shadow and get much less rainfall than other parts of India.

The growth of canal irrigation in the late nineteenth and early twentieth centuries caused the first significant shift in agricultural production, particularly to cropping patterns. Small-scale irrigation had long been practiced in India. While tanks, wells, and small, private canals were, and are still, largely constructed by wealthier individuals with access to capital or credit, the construction of larger-irrigation structures like large canals in watersheds was largely an undertaking of the colonial state.

The early large-scale canals in Maharashtra, known as the Deccan canals, were constructed by the British in the Bombay Presidency.[313] Although the canals were originally intended to provide a measure of insurance against episodic drought and famine, the availability of assured water at the time of an expanding market structure led some entrepreneurial farmers to switch from subsistence to cash crops.[314] Most popular among these was sugarcane, which was either made into *gul* by the farmers themselves, or processed into sugar by a cane factory. The incentive for those farmers with the necessary resources to switch crops was enormous. Studies of farming in the early twentieth century in Maharashtra have found that whereas an acre sown with millet or

[313] In a convincing new colonial history, Manu Goswami highlights the dramatic increases in investments flowing into the Indian subcontinent after the British crown displaced the British East India Company in 1857. She argues that this can be explained by considering that the British relied on "state works"—principally expanding rail networks and canal systems—as the physical markers that signified the transition from the mercantile rule of the Company, to formal colonial rule. Manu Goswami, *Producing India: From Colonial Economy to National Space* (Chicago: University of Chicag, 2004), pp. 42-72.
[314] Atwood, Donald W., (Nov 1985) "Peasants versus Capitalists in the Indian Sugar Industry: The Impact of the Irrigation Frontier" *Journal of Asian Studies* Vol. 45, No. 1, pp. 59-80.

sorghum (the subsistence crops that were the mainstay of this region) would yield Rs. 12 to 13, an acre planted with sugarcane would yield Rs. 618, a fifty-fold increase.[315] The first such entrepreneurial farmers were from the *Mali* community, a caste or jati of gardeners who migrated to the region from Saswad near Pune and had the necessary knowledge of cash cropping to take advantage of the opportunities posed by expanded irrigation facilities.

From an individual farmer's perspective, then, there were great financial incentives to switch to cash crops for those with the necessary resources. The government, which had financed the expansion of canals, also had a great incentive to encourage cash crops. These provided the only possibility for the colonial government to recoup its considerable investment. The government therefore created considerable incentives for farmers to lease lands along the canals for sugarcane cultivation.[316]

Although the Malis were inevitably the first to cultivate along the "irrigation frontier," which refers to lands where irrigation is newly available, eventually wealthier members of the region's dominant peasant caste, the *Marathas*, also took up sugarcane farming in the decades prior to independence. After independence, Maharashtra embraced a model of cooperation in the agricultural sector. The active involvement of the region's numerically and socially dominant Maratha caste in sugarcane farming, and

[315] Mann, Harold and N. V. Kanitkar. 1921. *Land and Labour in a Deccan Village: Study No. 2*. Bombay: Oxford University Press; and Inglis C. C. and V. K. Gokhale. 1928. "Note on the Outturn and Profit from Sugarcane Crops Grown in the Deccan Canal Tracts." Bombay: Government Central Press. Technical Paper no. 21, Public Works Department, Government of Bombay; cited in Atwood, "Peasants Versus Capitalists," 66.
[316] Donald Attwood, *Raising Cane: The political economy of sugar in western India* (Boulder: Westview Press, 1992), pp. 50-67.

the rise of the cooperative sector together constituted the twin engines driving the transformation of rich Maratha peasants into powerful political actors.

At independence very little of the total cropped area of the Bombay presidency was irrigated. The most common form of irrigation was by well, but government canals, private canals, and water tanks, or reservoirs, were also used.[317] The second significant shift in irrigation patterns and therefore agricultural production came in the late 1960s and 1970s, when rural electrification enabled farmers to efficiently pump groundwater using irrigation pumpsets (IPS) and lift water from reservoirs using electrified pumps. This new access to irrigation coupled with hybrid seeds and intensive fertilizer use were the essential components of India's state-directed Green Revolution.

The history of cooperative farming in Maharasthra, and the growth of the sugar industry as a mainstay of agriculture and agro-industrialization in Maharashtra have been extensively researched by historians as well as political scientists. What is largely overlooked in this research, however, is an appreciation for the ways in which development expenditure on electrification and irrigation constituted the mechanics by which these economic and political transformations occurred. The next section will summarize the main conclusions from the scholarship on how cooperative sugar farming shaped politics in the state, before turning to analyze the patterns of rural electrification and irrigation that were a critical part of these processes.

[317] Tanks are commonly used throughout peninsular India. Most often a tank is maintained in a naturally occurring dip in the land where rainwater collects or by blocking the flow of water from a stream with an earthen embankment. For more on pre-modern irrigation systems, see A. V. Williamson, "Indigenous Irrigation Works in Peninsular India," *Geographical Review*, Vol. 21, No. 4 (Oct., 1931), pp. 613-626.

Cooperative sugarcane farming and the rise of the "Sugar Barons"

The cooperative sector in Maharashtra has a long history that precedes independence. The important facts of this history for our purposes are the role of cooperatives in the production of sugar. During the colonial period, the dominant sugarcane-growing regions of India were located in north India, in present-day Bihar and Uttar Pradesh. These were the parts of the country most naturally suited to cane cultivation, and cane grew without the need for extensive irrigation. The factories that crushed the cane into sugar were almost entirely owned by private companies. There were some British-owned companies, but the bulk of them by the early twentieth century, were owned by Indian companies. These included some of the most prominent Indian business families of the day, like Shriram, Birla, Walchand Hirachand, and Thapar.[318] These north Indian factories resolved the coordination problem that is at the heart of sugar production not through a plantation economy of the kind that emerged in many other colonies, but through a system of intermediaries. "Landlords, money-lenders, and rich peasants…derived their strength not so much from their connection with the factories, or their entrepreneurial skills in exploiting new market opportunities as from their traditional position of political and economic domination in rural society."[319]

It was only as irrigation facilities spread throughout western India that sugarcane farming became viable and lucrative there. In Maharashtra, the class of farmers who cultivated cane were themselves the entrepreneurial and capital-rich ones—first from the

[318] Sanjaya Baru, *The Political Economy of Indian Sugar: State intervention and structural change* (Delhi: Oxford University Press, 1990), p. 84.
[319] Shahid Amin, *Sugarcane and Sugar in Gorakhpur: An enquiry into peasant production for capitalist enterprise in colonial India* (Delhi: Oxford University Press, 1984), Chapter 7, as cited in Baru, *The Political Economy of Indian Sugar*, p. 33.

Mali caste and later Maratha caste—who would take the risk of leasing land for a premium along the new canals. In the 1930s, cane-growing Malis switched from producing gur, a sugar product that was produced locally, to processing their cane into refined sugar.[320] Sugar had many advantages over gur, most importantly its longer shelf life and higher prices. Whereas gur could be produced in a decentralized fashion, by individual families of farmers, the costs of refined sugar production required the establishment of larger factory enterprises. Rather than selling their cane to the existing private crushing companies in the region, which had built a series of factory-run plantations, the Malis in one region solved the problem of coordinating cane production for factory processing by starting their own crushing cooperative in 1934. The cooperative was extremely successful, expanding operations on several occasions and repaying loans ahead of schedule.[321]

Thanks to the success of the Mali factory, other farming communities also chose to bypass the private factories and establish their own factories along cooperative principles. One of the earliest was set up in 1948 through the cooperation of cane-growing Maratha peasants, and the organizational and conceptual help of D. R. Gadgil, who is sometimes called the father of the cooperative movement in Maharashtra.[322] V. Vikhe, the main leader of the cooperative, organized his fellow farmers to contribute half of the share capital, convinced the Bombay State Cooperative Bank to raise the other half

[320] In 1932, the colonial government of India had raised tariffs on imported sugar (most of which was coming from Java), which gave a fillip to local sugar production.
[321] Attwood, *Raising Cane*, pp. 88-89.
[322] D. R. Gadgil was an important economist not just in the state but in all of India; he retired in the late 1960s as head of the central planning commission.

of the share capital, and arranged a loan from the Industrial Finance Coporation to finance the costs of equipment and construction.[323]

The cooperative sector received a major boost in 1954, when the provincial government of Bombay convinced the Indian government to reserve all future licenses for sugar factories for the cooperative sector. In itself, this could be read as testament to the growing clout of the commercialized peasantry, most of whom came from the upper echelons of the Maratha community. Cautioning against the danger of reading history backwards, however, one scholar of the sugar cooperatives suggests that the early cooperatives were the product of experimentation; it was only over time that they came to represent a "major power base" of the rural Maratha elite.[324] The Bombay-based industrial houses were vocal but ultimately ineffectual opponents of the new policy. For the landowning and commercial farming communities, cooperative factories allowed them to develop an alternative to the strength of urban based industrial capital. Thanks to the resources of the state banking and credit societies, these landowners were also able to overcome the constraints of capital scarcity. As one scholar notes, the "sugar cooperative, therefore, became an important vehicle for this transformation of the Maratha cane-growing community from that of a subordinate peasant community to becoming the dominant agrarian class."[325]

The emerging structure of cooperative institutions, in which cooperative factories got financial support from cooperative credit and banking institutions, was not spread

[323] Attwood, *Raising Cane*, p. 194.
[324] Attwood, Raising Cane, p. 190.
[325] Baru, *The Political Economy of Indian Sugar*, p. 86.

evenly among all castes. For the most part, it was landowning Marathas who emerged as the main organizers and beneficiaries of these evolving institutions. Likewise, these institutions were regionally concentrated in the districts of Western Maharashtra.

The existence and pattern of cooperatives in Maharashtra are one important reason for the Congress Party's continued dominance in the state even as provincial politics in other parts of they country were becoming more and more competitive, with effective national and local opposition parties emerging to challenge the hegemony of the Congress. The first state to elect a non-Congress government was Kerala in 1957, which elected a Communist government; in subsequent decades, elections all over the country became multiparty contests in which the Congress frequently lost. Maharashtra, however, remained a Congress stronghold. The brief period of non-Congress rule in Maharashtra in the aftermath of Indira Gandhi's Emergency in the late 1970s seems only to confirm the strength and influence of Congress politicians in the state's politics. When the Janata Party won the national elections in 1977, Maharashtra was one of five states in which the Congress retained a large measure of its former power.[326] The Congress also was ruled out of power in most of the state elections that coincided with or followed the national elections. In Maharashtra, however, the only way that a non-Congress government could come to power was after a local Congress politician, Sharad Pawar, defected from the party along with a large number of other ex-Congressmen. Sharad Pawar was the chief minister from this period before again re-joining Congress in the mid-1980s. The Congress itself has split several times into factions organized around

[326] James Manor, "Where Congress Survived: Five states in the Indian general election of 1977," *Asian Survey* Vol. 18, No. 8 (August 1978): pp. 785-803.

powerful leaders, but barring the brief period in the late 1970s, these splits did not allow opposition parties to come to power in the state until the 1990s, a period to which we will return in a later section.

Cooperative institutions were critical to Congress success because they provided avenues for the party to build durable alliances at the local level. According to some analyses, cooperative institutions were also the means by which the state government could garner support from influential segments of the countryside for agro-industrial development.[327] As many scholars have noted, there were multiple channels linking the Congress party to the cooperative institutions. In the first instance, Congress politicians were among the first to establish new agricultural cooperatives, relying on state credit to do so. Furthermore, the Congress party drew new political elites into the party from among the cooperatives. Rural political aspirants who first rose to local prominence as directors, managers, and board members of cooperative institutions were then drawn into politics, bringing to the Congress party political experience and the ready-made constituencies that they had built while running the cooperatives.[328] An analysis of the Maharashtra legislative assembly in office from 1967 to 1972 determined that out of the 263 legislators who responded to the questionnaire, 159 or 60.7% percent of them were

[327] Ashok S. Chousalkar, "Co-operatives: How has their leadership affected Maharashtra politics?" in *Politics in Maharashtra*, eds. Usha Thakkar and Mangesh Kulkarni (Bombay: Himalaya Publishing House, 1995) p. 34-35.

[328] Narayan R. Khekale, *The Pressure Politics in Maharashtra* (Mumbai: Himalaya Publishing House, 1999), p. 93-95. During interviews conducted by Khekale, two presidents of the Maharashtra Pradesh Congress Committee, the regional party office, confirmed that when deciding which candidates will be given tickets to contest elections, they explicitly looked for experience in running cooperatives as evidence of political aptitude and chances of success.

chairmen, directors, or secretaries of credit, sugar, or other state cooperative institutions.[329]

This could be compared to the way that diverse Indian political parties have relied on India's vibrant, and occasionally violent, student politics in colleges and universities to yield new political stars. Of the current crop of influential politicians in India, Lalu Prasad Yadav of Bihar, Mulayam Singh Yadav of Uttar Pradesh, and Buddhadeb Bhattacharya from the CPI(M) in West Bengal all got their start in student politics. In Maharashtra, many of the most influential politicians of the last three decades got their start in cooperative politics, including Sharad Pawar, Vasantdada Patil, Ajit Pawar. The one Maratha who is remembered as having attempted to weaken the dominance of the "sugar barons" in Maharashtra's politics was Shankarrao Chavan. He was a Maratha but from Marathwada rather than Maharashtra, who studied in Hyderabad and practiced law before running for elected office.

Several ethnographies of rural Western Maharashtra provide details of the ties that bind cooperative institutions and the Congress party, on the one hand, and the dominance of cooperative institutions by Marathas on the other. Both of these tendencies serve to entrench the interests of rural elites in state and local politics. One of Maharashtra earliest post-Independence factories was the Kopergaon sugar factory, founded in 1953 and located in the Ahmednagar district of Western Maharashtra. For most of the 1950s, there was relatively little direct political involvement in the running of the factory. But by the 1960s, the links between the Congress party and the board

[329] Khekale, *Pressure Politics in Maharashtra*, p. 92.

management were clear. For example, for much of the 1960s, the chairman of the factory was a man named S. D. Kale, a Maratha leader who was also president of the District Congress Committee, and a member of the state legislative assembly who later held cabinet portfolios.[330] Also during the height of cooperative-party affiliation, the factory's jeeps and physical plant were used for Congress campaigning. Perhaps most significant given the costs of Indian elections and the scarcity of funds, the sugar factory made substantial financial contributions to the Congress party. This the factory did by imposing a nominally optional levy on each ton of sugarcane that it collected from its member-growers. In reality, the cooperative's leaders exerted considerable pressure particularly over smaller farmers to contribute to the fund.[331]

Marathas dominate not just the sugar cooperatives, but also cooperative credit and irrigation societies. Another ethnography, of Girvi town in Western Maharashtra, provides convincing evidence of this in an isolated region. The town is in the district of Satara, the heart of sugarcane production. In the late 1960s, although elite Marathas[332] constituted only one-quarter of the population of the town and its outlying areas, they held close to three-quarters of the shares in the Shriram Sugar Factory in the region, close to forty percent of the shares in the Girvi Credit Society, and just over 50% of the shares in the areas lift irrigation society.[333]

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[330] B. S. Baviskar, *The Politics of Development: Sugar Cooperatives in Rural Maharashtra* (Delhi: Oxford University Press, 1980), p179

[331] Baviskar, *Politics of Development*, pp. 74-75.

[332] This ethnographer distinguishes between elite Maratha, those who held hereditary estates in land and office in colonial and pre-colonial times, and other Marathas, those who in the nineteenth century would have been referred to as kunbis.

[333] Anthony Carter, *Elite Politics in Rural India: Political stratification and political alliances in Western Maharashtra* (Cambridge: Cambridge University Press, 1974), pp. 75-76.

The rapid spread of cooperatives went hand in hand with the continued spread of irrigation technologies. Once the "irrigation frontier" resulting from new canals was fully saturated, it was the turn of rural electrification to provide new irrigation possibilities, which again were concentrated in only some parts of the state. Given the uneven supply of canal waters, even before widespread electrification brought down the cost of well irrigation, farmers who grew sugarcane on canal tracts relied heavily on wells to ensure adequate irrigation.[334] Electrification was doubly important for sugar production. Sugarcane farming requires large amounts of water, and in the semi-arid Deccan, groundwater pumped via an electrified pumpset provided a fillip to cane production. Electricity was also used in the factories that processed cane into sugar. In Maharashtra, these factories were established along cooperative lines, again dominated by geographically linked caste clusters, like the Malis and later the Marathas. Cooperative farming institutions are the crucial link connecting sugarcane production and the political power of rural Maratha elites.

[334] G. S. Kamat, *Management of Co-operative Sugar Factories in Maharashtra* (Bombay: Maharashtra Rajya Sahakari Sangh, 1976), p. 38. This study of thirteen cooperative factories in 1961 found that while farmer members of some of the cooperatives relied almost wholly on canal waters, members of other cooperatives that had farmed in canal tracts nevertheless used a mix of well and canal waters, and in still others, wells were used almost exclusively. For example, sugarcane-farming members of the Pravara Sugar Factory, the first cooperative factory to be set up in Maharashtra following independence, cultivated a total of 4,634 acres of sugarcane. Out of this, despite between located in the area of the Pravara Right and Left Bank Canals, farmers irrigated 85% of the land with well water and only 15% with canal waters.

Uneven rural electrification and its impact on agriculture

Rural electrification was not uniform across Maharashtra. Rather, the pattern followed, and later reinscribed, deeper political and economic inequalities in the state. The farmlands of Western Maharashtra benefited the most from the irrigation potential provided by rural electrification. In the first years after the formation of MSEB in 1960, the utility expended resources laying transmission lines in the districts of Vidarbha, which followed a certain economic logic because a bulk of the generation stations were in the Vidarbha region, and electrifying villages closest to the power plant is most cost effective. The region of Marathwada has consistently received the fewest resources, thereby reproducing the regional inequalities in the state that lead to the present, in which the districts of Marathwada are among the poorest regions in India, despite their inclusion in Maharashtra, India's wealthiest state. As politics started to impact the utility's decision-making in the late 1960s and 1970s, more of the electrification resources went to the districts of Western Maharashtra, where they were vital for sugarcane farming and cane crushing operations.

The inequality in allocation of electrification resources is manifest in both the rate of village electrification in each region as well as the number and size of irrigation pumpsets electrified in each region. The following tables depict the imbalances in rural electrification across the three primary regions of Western Maharashtra, Vidarbha, and Marathwada during the 1960s and 1970s.

Table 22: Electrification of Irrigation Pump Sets in Western Maharashtra

	# of irrigation pumpsets energized	Total connected horsepower	# of pumpsets per village
1960	242	2,844	.02
1965	9,216	45,843	.57
1970	91,269	459,300	5.66
1975	209,056	1,044,555	12.97

Table 23: Electrification of Irrigation Pump Sets in Vidarbha

	# of irrigation pumpsets energized	Total connected horsepower	# of pumpsets per village
1960	5,168	15,821	.41
1965	14,587	44,715	1.16
1970	39,659	121,950	3.17
1975	92,789	304,815	7.41

Table 24: Electrification of Irrigation Pump Sets in Marathwada

	# of irrigation pumpsets energized	Total connected horsepower	# of pumpsets per village
1960	8	43	.00
1965	1,208	3,846	.18
1970	28,785	121,100	4.3
1975	68,193	299,560	10.2

Source Tables 22-24: *Maharashtra State Electricity Board Annual Report*, various years.

The sizes of each of Maharashtra's three territories are different, with a different number of villages in each region. For the purposes of comparison, the fourth column gives a ratio of the number of electrified pumpsets from column 2 to the number of villages in each region. The results of India's decadal census from 1951 indicate that there were then 16,113 villages in Western Maharashtra, 12,523 in Vidarbha, and 6,677 villages in Marathwada. The data for 1960 represent a base of sorts, because the work of electrification in each of the three regions before that point had been carried out by an assortment of different government and administrative authorities: Bombay state in the case of Western Maharashtra; Madhya Pradesh until 1956, when Vidarbha was ceded to

Bombay state; and Hyderabad state until 1956, when Marathwada too became part of Bombay state.

It is only after 1960, when Maharashtra took its present form, that we can begin to judge how the state chose to allocate scarce resources among different regions and classes of consumers in the process of electrifying the state. As Chapter 2 suggested through an analysis of amendments over time to the national Electricity Act of 1948, the ability of politicians to affect the functioning of the state utilities to satisfy political agendas increased gradually over time, from the 1950s through the 1970s, as successive amendments to the national legislation weakened the autonomy of the Boards and made their functioning more subject to government approval. One area of interference was in the pattern of rural electrification, which became a huge boon that a politician could confer on grateful constituencies. The incentives for politicians to become involved in influencing what in earlier decades had been technocratic decisions were therefore very high.

By 1965, the proportions of resources going to each region start to become more skewed, with the bulk of resources going to Western Maharashtra. The figures showing actual consumption of electricity by agriculturalists in each region are also revealing of this trend. By 1973, of all electricity consumed by the farm sector, 74.8% went to Western Maharashtra, 14.2% to Vidarbha, and only 11.0% to Marathwada, which was then and remains the poorest of the three regions, where purchasing power and income levels also prevented the emergence of more input-intensive agricultural production. So while the number of pumpsets per village in Marathwada is much higher than in

Vidarbha, and close to the level in Western Maharashtra, the consumption of power in Marathwada is the lowest of the three regions by far.

In the late 1970s, one particular decision made by the MSEB had the unintentional consequence of further skewing the distribution of resources in the state among various regions and crops. This was the decision to switch from a tariff based on actual consumption of electricity as recorded by a meter, to a flat-rate tariff that was based on the size (in horse power) of the pump. This decision was made in 1977, when Madhav Godbole was chairman of the MSEB, a post he held from 1976 through the end of 1978. The government of Maharashtra introduced flat-rate tariffs following strong recommendations made by the World Bank. Reading the meters of far-flung rural consumers was a time and labor intensive activity and there were frequent complaints of malfeasance lodged at both customers and meter-readers. In some cases, meter-readers accused rural customers of deliberately tampering with meters. In other instances, utility staff colluded with customers to show a much lower reading of consumption in exchange for payment. So the World Bank's proposed flat rate system was meant to obviate these myriad problems.[335]

Decades after his retirement as chairman, Godbole realized that the World Bank's recommendation, which according to his recollection were inspired by the electricity policies of much smaller northern European nations like Sweden, were completely inappropriate for India, where distances and populations are much more vast.[336]

[335] Madhav Godbole, *Unfinished Innings* (New Delhi: Orient Longman, 1996), p128.
[336] Interview with Madhav Godbole, Pune, India DATE???

While the decision may have been taken for what were considered at the time to be sound technocratic reasons, the consequences were far-reaching in further transforming both Maharashtra's pattern of agriculture and also the political power of certain classes of farmers and rural elites. A flat-rate tariff grossly benefited those crops that need intensive irrigation, like sugarcane, by dramatically lowering the cost of electricity per unit. MSEB records show that it was precisely farmers in western Maharashtra that first took advantage of this new facility in pricing, as the following tables demonstrate.

Table 25: High and low tension, metered and unmetered consumers in Western Maharashtra

	High tension (per HP tariff)	High tension (metered tariff)	Low tension (per HP tariff)	Low tension (metered tariff)
1981	505	35	257,419	109,741
1986	657	92	383,635	137,499
1990	820	115	590,807	203,142

Table 26: High and low tension, metered and unmetered consumers in Vidarbha

	High tension (per HP tariff)	High tension (metered tariff)	Low tension (per HP tariff)	Low tension (metered tariff)
1981	23	35	75,873	102,592
1986	23	n.a.	718,534	157,299
1990	19	57	137,480	172,874

Table 27: High and low tension, metered and unmetered consumers in Marathwada

	High tension (per HP tariff)	High tension (metered tariff)	Low tension (per HP tariff)	Low tension (metered tariff)
1981	6	59	103,277	48,542
1986	9	77	169,231	65,105
1990	43	14	313,616	n.a.

Source for all Tables 25-27: *Maharashtra State Electricity Board Annual Report*, various years.

The largest of agricultural consumers of electricity, the lift irrigation schemes (LIS), required a high tension connection with a higher voltage connection. While a regular electric pump supplied by a low voltage connection is between one and five horsepowers, lift irrigation schemes have much larger pumps. These pumps are more efficient, run for

longer hours, and are much more expensive. The expense was great enough that only a community of farmers together can afford the expense of a lift irrigation scheme, many of which came to be organized with the explicit help of the management of cooperative sugar factories.

By 1994, almost three-quarters of farmers in Maharashtra paid a flat-rate as opposed to a metered tariff for their electricity consumption. In addition to the regional imbalances in electrification, the benefits of the agricultural subsidy are also imbalanced, this time in favor of larger farmers. A careful study of who benefits from the subsidy deduced that a very small percentage of the total farming community captures a large measure of the benefit.[337] While the government of Maharashtra claims that subsidies for rural electricity have to continue in order to benefit marginal and poor farmers, Sant and Dixit find that it is primarily large farmers who profit from subsidies. Only one-fifth of all farmers in Maharashtra either own their own pumpsets on private wells or are members of a cooperative lift-irrigation society that requires electricity to life water from rivers or streams. Of this one-fifth of subsidy beneficiaries, three-quarters get only a negligible amount.

These two trends together—the spatial bias in rural electrification and the implementation of flat-rate tariffs—help us to understand why sugarcane cultivation commands a considerable share of the state's groundwater resources. From 1960-61 to 1997-98, the area under sugarcane cultivation increased from 0.83 percent of the total

[337] Girish Sant and Shantanu Dixit, "Beneficiaries of the IPS subsidy and the impact of tariff-hike" *Economic and Political Weekly*, December 21, 1996. The study is necessarily deductive since the MSEB's data about agricultural consumption are not reliable, a quality not unique to MSEB.

cropped area in the state, to 2.33% of the total cropped area.[338] However, the crop commands considerably more of the total irrigated area in the state. In 1960-61, sugarcane accounted for 12.33% of the state's irrigated land. This figure increased to a high of 18.85% in 1994-95 before declining to 13.48% in 1997-98.[339]

Agro- politics in the 1990s

During the decades of the 1970s and 1980s, Maharashtra devoted far more resources to rural development, particularly in the western cane-country, than other state governments. This resulted in a very different pattern of rural electrification and more importantly, the electrification or "energization" of pumpsets, than that of other states. The following table gives information about the rural electrification program in India's major states in the mid-1990s.

[338] EPW Research Foundation, *District-wise Agricultural Database for Maharashtra: 1960-61 to 1997-98* (Mumbai: EPW, 2004), Annexure II: Area Under Different Crops: Maharashtra.
[339] EPW Research Foundation, *District-wise Agricultural Database*, Annexure IV: Area Irrigated Under Different Crops: Maharashtra.

Table 28: Village and irrigation pumpset electrification

State	Total # of villages (1991 census)	# electrified as of March 1993 (%)	Estimate of potential # of electrified pumpsets	# electrified as of March 1993 (%)
Andhra Pradesh	**27,379**	**27,358 (99.9)**	**1,600,000**	**1,398,049 (87.4)**
Assam	21,995	21,481 (97.7)	200,000	3,675 (1.8)
Bihar	67,546	47,498 (70.3)	1,000,000	261,100 (26.1)
Gujarat	18,114	17,892 (98.8)	700,000	512,780 (73.3)
Haryana	6,745	6,745 (100)	430,000	396,639 (92.2)
Himachal Pradesh	16,807	16,761 (99.7)	10,000	3,755 (37.6)
Karnataka	27,028	26,483 (98.0)	850,000	869,461 (102.3)
Kerala	1,219	1,219 (100)	300,000	265,224 (88.4)
Madhya Pradesh	71,352	65,468 (91.8)	1,300,000	1,003,900 (77.2)
Maharashtra	**39,354**	**39,106 (99.4)**	**1,800,000**	**1,760,976 (97.8)**
Orissa	**46,553**	**32,682 (70.2)**	**500,000**	**61,428 (12.3)**
Punjab	12,342	12,342 (100)	700,000	639,343 (91.3)
Rajasthan	34,968	28,460 (81.4)	600,000	439,120 (73.2)
Tamil Nadu	15,831	15,822 (99.9)	1,500,000	1,402,858 (93.5)
Uttar Pradesh	112,566	84,256 (74.9)	2,400,000	694,902 (29.0)
West Bengal	38,024	28,455 (74.8)	500,000	94,710 (18.9)

Source: *Ministry of Power Annual Report 1994/95* (New Delhi: Government of India, 1995), pp. 24-25.

The data for rural electrification reveals stark differences across the states. To judge how important electricity had become to agricultural production, the data on electrified pumpsets are more significant than the information about electrified villages. The Ministry of Power had a low threshold for calculating village electrification, and judged a village to be electrified so long as a single electricity connection existed there. This explains why so many states had achieved relatively high levels of rural electrification. The lowest rates of electrification are in Orissa and Bihar, in both of which roughly 70% of the villages had at least one electricity connection.

The data for pumpset electrification reveals even greater disparity across states than the figures for village electrification. The figures given in the table for potential electrified pumpsets were calculated by the Ministry of Power on the basis of groundwater stores, area under cultivation, and the extent of alternative irrigation

supplies, such as from canals. In some states (among them Orissa, Bihar, Uttar Pradesh), less than a third of the potential was met. Maharashtra is one of two states (the other is Karnataka to the south) where nearly all of the potential for pumpset irrigation was achieved by 1993, less than twenty-five years after the national Rural Electrification Corporation was formed in 1969 to fund such projects.

The other means by which farmers' interests were represented in state politics—in addition to the overlapping leadership of cooperative institutions, particularly sugar cooperatives, and state government institutions—was through a significant social movement of farmers that emerged in the 1970s, and whose heyday was in the 1980s.[340] Throughout that decade, farmers organized to demand improved terms of trade that included subsidies for inputs like fertilizers, electricity, and seeds, and higher prices for farm output. There were several epicenters of the movement, including in Punjab and Haryana, Andhra Pradesh, and Maharashtra. Over time, the various regional incarnations of farmers lobbies were united under a single umbrella organization to better influence central government policy.

In Maharashtra, the most influential farmers' organization was the Shetkari Sanghatana, led by the charismatic Sharad Joshi, who came to farming relatively late in life after a diplomatic career than included stints at the United Nations in Europe. The farmers' most effective means of protest included demonstrations that involved hundreds of thousands of peasants, blockades of railroads and entire villages to government officials and politicians, and in Maharashtra, farmers also withheld crops like onion,

[340] Ashutosh Varshney, *Democracy, Development, and the Countryside: Urban-rural struggles in India* (Cambridge: Cambridge University Press, 1995); Chapter 5.

cotton, and tobacco from the markets, causing a spike in prices. Movement leaders also urged farmers to stop paying taxes, electricity bills, or bank loans.[341]

During the 1990s, the most influential politician in Maharasthra was a man named Sharad Pawar, who continues to serve as the Minster of Agriculture in the current Indian central government. Pawar exemplifies many of the trends outlined in the preceding sections about the links between rural cooperatives and state institutions, and the importance of rural elites in Maharashtra's politics.

Maharashtra: the reformist state that did not reform

Already by the mid- 1990s, the discussion surrounding reform in India had turned away from the entry of independent power producers (IPPs) to distribution privatization, and the state singled out as the most likely candidate was Maharashtra.[342] The rationale among energy experts in naming Maharashtra as an ideal site for privatization included the following: the utility was among the most profitable of all electricity boards in India; its losses owing to transmission and distribution were among the lowest; and the state of Maharashtra, according to predictions by energy experts within and outside of India and also according to Indian politicians and policy-makers, was to face an imminent crisis of supply and did not possess adequate capital resources to finance new capacity. All of these facts coincided with a growing reluctance on the part of international financial

[341] Staffan Lindberg, "New Farmers' Movements in India as Structural Response and Collective Identity Formation: The cases of the Shetkari Sanghatana and the BKU," *The Journal of Peasant Studies* Vol. 21, No. 3/4 (April/July 1994): 95-125.
[342] "Why Maharashtra SEB might be worth privatizing" *FT Energy Newsletters – Power Asia*, March 25, 1991.

institutions, which had backed most of India's earlier generation expansion, to continue to fund state-owned companies that often operated with deficits and growing debt. In addition, Maharashtra was hailed as a "reformist" state because of the way the state had embraced other elements of the new economic program. Also, Maharashtra had emerged from the previous four decades of centralized planning as one of the wealthiest states in India, and was considered well positioned to take the lead in the new climate of private-sector led development.

As early as the 1980s, the Maharashtra government had indicated a willingness to embrace new models of encouraging private capital to the state. This was evident even in the state's appointment of P. Abraham as chairman of the MSEB. Like Jagdish Sagar, the chairman of Delhi's utility a decade later, P. Abraham was an adroit career bureaucrat who embraced the new climate of liberalizing India and in particular in the energy sector.[343] He served in various capacities in the sector, as energy secretary to the Maharashtra government from 1986 to 1989, as Chairman of MSEB from 1989 to 1991, and as power secretary to the government of India from 1994 to 1997. One of Abraham's strength as a board chairman was the close ties he enjoyed with the government from previously having served as energy secretary.

Several actions taken by the state government and the MSEB suggest that the state was willing to embrace new policy models in its energy sector. In 1989, the government of Maharashtra started lobbying the central government to approve new gas-based power projects. These would have required supplies from the centrally-run gas and

[343] Author's interview with P. Abraham, April 2, 2003, New Delhi. Much of the following information is drawn from this meeting.

oil terminals at a time when the demand for natural gas and oil was already exceeding its current supply in India. Although the central government had not yet amended the electricity act to permit private investments in the sector, which would not happen for another two years, Abraham told the press that the state was "nonetheless preparing grounds for such eventuality."[344] Given Maharashtra's large supplies of coal and the existing dominance of coal in thermal generation, the emphasis on gas-fired plants was evidence of the state government's willingness to adapt new technologies to enhance energy efficiency. As gas-based projects also have shorter gestations and lower capital costs, the state government was also considering the most expeditious means of resolving what was at the time expected to be an imminent energy shortage.

A second policy that underscores the state's reformism was the decision to allow the private company, BSES, up to this point purely a distribution company, to begin generation functions. By the end of 1990, the state and central governments had granted permission to BSES to build its first power plant in coastal Maharashtra. In early 1991, the last remaining obstacle had been removed when the Bombay High Court dismissed two petitions filed on the grounds that the power plant would disrupt the delicate marine ecology. The policy that most sharply illustrates the state's reformism was its decision to raise electricity tariffs. Just as other states were selectively lowering electricity tariffs, MSEB raised its tariffs across the board by eighteen percent.[345]

[344] "Maharashtra pushes for gas-fired plants despite opposition" *Power Asia – FT Energy Newsletter*, September 25, 1989.
[345] "MSEB goes for big tariff hike" *Power Asia – FT Energy Newsletter*, June 15, 1992.

For all of these reasons—the government's and the SEB bureaucracy's apparent willingness to adopt new models and embrace private capital; and the solid financial base of the SEB, especially compared to other SEBs—MSEB was considered to be the best candidate for privatization. One proposal that emerged in the ongoing discussions between the SEB and the government, was to restructure the utility to allow private equity participation, to float the SEB via the Bombay stock exchange. Whether through this method or direct sale of assets to a single investor, the energy policy community determined that "it may be that a real stab at privatisation is an idea whose time has come. If so…then the MSEB is as good a place as any to start."[346]

Despite these predictions, Maharashtra chose to retain MSEB as a public company. The reasons have much to do with how significant agricultural consumption was by the mid-1990s in Maharashtra, particularly compared to other states. Subsidized power (along with subsidies for water and fertilizer), were important links between the governing coalition and certain rural sectors, particularly the water-intensive sugarcane industry.

Conclusion

As in the two cases examined thus far—Orissa and Delhi—understanding state governments' policy choices regarding utility privatization involves understanding the

[346] "Why Maharashtra SEB might be worth privatizing" *Power Asia - FT Energy Newsletters*, March 25, 1991. This is a speculation that I heard from others in the energy bureaucracy in the state, including P. Abraham and Jayant Totade, Joint Secretary of MSEB at the time I was conducting fieldwork in 2002-2003. Author's interview with Jayant Totade, October 13, 2003, Mumbai; Authors's interview with P. Abraham, April 2, 2003, New Delhi.

incentives and political strength of both the proponents of privatization as well as its detractors. Industrialists and urban residents—the advocates of privatization elsewhere—were silent from the debate in Maharashtra since they were already served by private companies. Rural interests that benefited from state subsidies through public sector ownership were free to command policy in their favor. State and local politics in Maharashtra continued to be dominated by rural Maratha elites. It was often the case that the important development portfolios in the state government—irrigation, energy, and rural cooperatives among the key posts—were held by Maratha leaders with strong ties to the land and cooperative institutions.[347]

Another axis by which rural interests came to be represented in government policies was through the considerable influence of the new farmers' movements of the 1980s. In western Maharashtra, the farmer's movement had proven itself able to mobilize significant portions of the peasantry to rally for higher price supports and greater subsidies through public marches and rallies throughout the 1980s and early 1990s.

[347] This was pointed out to me by several keen observers of politics, but it awaits further confirmation by a systematic analysis of cooperative leadership and the major development portfolios in the state government – irrigation, power—during the 1980s and 1990s. Prashant Khotadiya, former youth member and political worker of the Peasants and Workers Party, Interview with author, July 12, 2003, Pune.

Chapter 6: Andhra Pradesh: One step forward, two steps back

As economic reforms accelerate there will be a period when the divide between those who benefit directly from them and those who will only see the benefits at a later stage, will widen. The role of government will be to insulate the poor from the harsh effects of the reforms and hold the prices of their basic necessities. There is no contradiction in pushing both for reforms and subsidies.
N. Chandrababu Naidu[348]

Introduction

As the last chapter argued, Maharashtra was expected to take the lead in implementing electricity distribution privatization because the state had already achieved rural electrificaton, had already enacted other kinds of liberalizing policies, and could have easily attracted private investors. The nature of Maharashtra state's ties to rural constituencies, however, meant that the government shied away from privatization because it would have threatened to dismantle a long-standing system of state subsidies to politically influential large farmers and agro-industrialists.

Perhaps even more than Maharashtra, Andhra Pradesh was expected to be a leader in economic liberalization, including in the electricity sector. The reason for this belief was bound up in the figure of Chandrababu Naidu, who was the state's chief minister from 1995-2004, the entire period when distribution privatization was being both advocated (by the central government and the World Bank), and enacted (by Orissa and Delhi). Hailed a "CEO" chief minister by the Indian and global business press as well as international financial institutions, Naidu professed a strong ideological commitment to

[348] N. Chandrababu Naidu with Sevanti Ninan, *Plain Speaking* (New Delhi: Viking, 2000), p. 249.

economic liberalization. He seemed to evince a strong "political will" to liberalize, considered the necessary factor in many accounts of economic reform.

Unlike Maharashtra, Naidu's Andhra Pradesh was one of the three states (along with Orissa and Haryana) to embark on the electricity sector restructuring process being advocated by the World Bank starting in the mid-1990s. The process, as we have seen in earlier chapters, had two primary steps. The first involved restructuring the existing vertically-integrated public utility into separate transmission, distribution, and generation companies. The distribution business was then further subdivided by geographic zone. According to restructuring plan followed by Orissa, transmission was intended to remain under state-ownership; generation would come under mixed ownership as private companies invested to build newer generating stations that would operate alongside the older state-owned plants; distribution would be privatized, with the ultimate goal of creating a competitive distribution environment. Naidu's government was able to initiate the process of restructuring much more quickly than most state governments by passing the Andhra Pradesh Electricity Reform Act in 1998. However, efforts to prepare the ground for privatization were resisted by the state's population, constantly fell short of what was required. Rural voters for whom electricity subsidies were gradually being decreased were spared the full brunt of the tariff increases that affected other categories of consumers, even though rural electricity consumption was viewed by both Naidu and the World Bank funders as the primary cause for the utility's operational and fiscal difficulties. In response to the very minimal tariff increases that affected the farm sector, Naidu's political opponents depicted his government as anti-poor and anti-farmer.

After serving two terms and being hailed as the CEO chief minister, Naidu lost in 2004. A major platform of the Congress party was a pledge to restore free power for farmers, and implementing this promise was the first act of Andhra Pradesh's new chief minister, YSR Reddy. This together with the termination of World Bank funding that it prompted, signaled an end to Andhra Pradesh's flirtation with electricity liberalization.

Naidu's attempts to restructure and privatize APSEB speak on the one hand of his ideological commitment to reform (necessary to stimulate industrialization and "development" as the chief minister himself often put it). On the other hand, these commitments ram up against the political pressures to maintain populist subsidies that benefited the state's rural communities. Just as in Maharashtra, electricity had become an important input in agricultural production, particularly in the rich agricultural districts of coastal Andhra Pradesh. Again, as in Western Maharashtra, agricultural production in these districts had been stimulated in an earlier period by British colonial spending on canal irrigation; in the postcolonial era these districts were also the prime beneficiaries of Green Revolution growth, particularly through water intensive rice cropping. The result of increased spending on rural electrification in the late 1960s was that a steadily increasing percentage of the state's electricity supplies were allotted to agricultural consumption. And agriculture in Andhra Pradesh relative to other states is particularly reliant on tubewell irrigation via electrified pumpsets. The large consumption of electricity by the farm sector was the critical factor affecting the state's energy policy; it was both blamed for the fiscal crisis of the public utility and was thus the most urgent reason for change. And it was also the biggest obstacle to the implementation of the

restructuring and privatization programs followed by other states and financially supported by the World Bank's lending program.

Naidu's power sector reforms also become the most visible symbol of his government's neoliberal agenda and served as a lightening rod for political opposition, bringing parties of all persuasions together to launch massive protests and rallies. According to media sources, Naidu's unpopular power reform policies stimulated the longest agitation in the state centered on a purely economic issue.

Electricity and Agriculture

Like most other states in India, Andhra Pradesh is an amalgam of regions, each with distinct ecology, social structure, and political history, but united by a common linguistic identity, in this case the language Telegu. The three different regions of the state—Rayalaseema, Telengana, and Coastal Andhra—were part of different political formations during the colonial period. The region called Telengana was the seat of the Nizam's Hyderabad, and contains the state's capital city, Hyderabad. The Rayalseema region, which includes the southwestern districts of the state, was ceded by the Nizam to the British and was administered as part of Madras Presidency. Like Rayalaseema, Coastal Andhra Pradesh (in the eastern part of the state) also became part of the colonial Madras Province. As in Western Maharashtra, the districts of Coastal Andhra during the colonial period benefited from extensive irrigation investments in the late nineteenth and early twentieth centuries. As a consequence, these districts were well poised to take

advantage of the Green Revolution policies of the 1960s, which further exacerbated the inequalities between this region and the other two. Rayalaseema, which is distinct agroclimatically from the coastal districts, neither benefited from irrigation development nor had natural-resource endowments that could be exploited.

Map 4: District map of Andhra Pradesh, 2001
Source: Office of the Registrar General, India
Copyright: Public domain

If the largest consumer of water in Maharashtra was the water-hungry sugar cane crop, the culprit in Andhra Pradesh is rice, or paddy. Rice cropping increased in Andhra Pradesh tremendously during the Green Revolution. While farmers in Punjab came to dominate wheat cultivation, and reaped the benefit of the central government's public wheat procurement program, the same was true of Andhra Pradesh's rice farmers,

particularly in the coastal districts. From the mid-1950s to a high-point in 1998-99, the area of cropped area in the state under rice cultivation increased by close to 50%.[349] In roughly the same period, the share of coarse cereals, many of which are drought resistance and more suitable to Andhra Pradesh's ecology, decreased from 40% in the 1960s to 11% in the late 1990s, a more rapid decline than in India as a whole.[350] The politics that led to these cropping outcomes in Andhra Pradesh are part of a general pattern that mirrors some of the trends seen in Maharashtra, where politically influential agricultural communities were able to channel subsidized resources to input-intensive cash crops.

The shifts in agricultural production to water-intensive crops led to an increased reliance on tubewell irrigation throughout the decades. This went hand-in-hand with the state's focus on rural electrification and pumpset irrigation. The number of electrified pumpsets increased steadily from the 1960s to the 1990s. During the 1960s, the average growth over a three-year period in number of electrified pumpsets was over 100%; during the 1970s and 1980s, the average increase over a three-year period was close to 35%.[351] By the end of the 1990s, however, the government stopped providing new electricity connections for irrigation pumpsets, in an attempt to stem the revenue losses from

[349] Bureau of Economics and Statistics, *Five Decades of Andhra Pradesh* (Hyderabad: Government of Andhra Pradesh, 2006), Table 7: Area under principal crops in Andhra Pradesh from 1956-57 to 2005-06.
[350] Kensuke Kobo, "Cropping Pattern Changes in Andhra Pradesh during the 1990s: Implications for Micro-level Studies," in *Agricultural Production, Household Behavior, and Child Labor in Andhra Pradesh*, ed., Seiro Ito (Wakaba, Japan: Institute for Developing Economies, 2005), p. 209-10.
[351] Transmission Corporation of Andhra Pradesh Limited, *Power Development in Andhra Pradesh (Statistics) 1999-2000*, (Hyderabad: AP Transco, 2000).

agricultural consumption, each unit of which represents a significant financial loss to the utility.[352]

Coterminous with the increase in number of pumpsets in operation, the tariffs for agricultural consumers began to steadily decline from the mid-1970s onwards.

Table 29: Electricity Tariffs for Low Tension Agricultural Consumption, 1977-1999

	Metered Tariff		Flat rate tariff	
Date	Per unit rate (paise/kWh)	Additional fixed charges (Rs./HP)	(up to 5 HP)	(above 5 HP)
1975-1977	16 paise/unit	3 Rs./HP		
1977-1982	16 paise/unit	2 Rs./HP		
1982-1989	16 paise/unit	2 Rs./HP	Rs. 50/HP	Rs. 50/HP
1989	41 paise/unit	6 Rs./HP	Rs. 50/HP	Rs. 50/HP
1990-1992			Up to 5 HP – no charge;	5 HP-10 HP Rs. 100/HP/annum;
1992			Up to 5 HP -100/HP/annum;	5-10 HP Rs. 250/HP/annum; Above 10 HP Rs 400/HP/annum
Dec 1992-1995			Rs. 50/HP/annum	Rs. 50/HP/annum
1996-1998			Upto 3 HP Rs. 150/HP/annum; 3-5HP Rs. 250/HP/annum; Rs. 400/HP/annum	5-10 HP Rs. 350/HP/annum; Above 10 HP Rs. 400/HP/annum
As of Jan 1999			Up to 3 HP Rs. 150/HP/annum; 3-5 HP Rs. 250/HP/annum	5-10 HP Rs. 350/HP/annum; Above 10 HP Rs. 400/HP/annum

Source: *Annual Report of APSEB*, various years.

The combination of larger numbers of pumpsets and lower tariffs for agricultural consumers led to a greater proportion of all electricity consumption in the state going towards agriculture. Agricultural consumption made up a modest 18.4% of total electricity consumption in 1970, increasing to 40.8% in 1999. The share of industry in

[352] Balarama Reddy, Administrative Staff College of India (Hyderabad), Interview with author, March 4, 2003, Hyderabad. Trained as an engineer, Reddy began working in APSEB in 1953. He retired in the position of Chairmen of APSEB, which he held from 1992-1995.

total energy consumption declined by more than two-thirds over the same three decades, from 65.4% in 1970 to 23.5% in 1999.[353]

From the farmer's perspective, electrified pumpsets were clearly advantageous over pumps operated by diesel engines, which is often the alternative means of irrigation. A cost-benefit analysis of diesel versus electrified pumpset use found that while initial capital costs (price of diesel engine versus cost of pumpset) were higher for the latter, the costs for using the two alternatives were much higher for diesel engines due to electricity subsidies.[354]

One reason that the pace of granting subsidies increased even further during the 1980s is that elections in Andhra Pradesh evolved from single-party contests dominated by the Congress to bipolar contests in which the Congress was pitched against the Telegu Desam Party, founded in the early 1980s by a charismatic star of Telegu cinema, NT Rama Rao. Rao brought an explicitly populist agenda to state politics, instituting the wildly popular 2 Rs/kilo rice scheme, and further subsidizing inputs like electricity.[355]

By 1991, less than 20% of the net cropped area of the state was irrigated by either canals or electric-powered tubewells.[356] Of this, only 15% was accounted for by tubewell for the state as a whole. However, in some districts there was far greater reliance on electric pumps. In one of the richest agricultural districts in the state, West Godavari,

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[353] Transmission Corporation of Andhra Pradesh Limited, *Power Development in Andhra Pradesh (Statistics) 1999-2000*, (Hyderabad: AP Transco, 2000), Table 9.11.
[354] Meera Rajagopalan and Harvey Demaine, "Issues in energy subsidies for irrigation pumping," *Energy Policy*, Vol. 22, No. 1 (Jan. 1994): 89-95.
[355] Atul Kohli, "The NTR Phenomenon in Andhra Pradesh: Political Change in a South Indian State," *Asian Survey*, Vol. 28, NO. 10 (Oct. 1988): 991-1017.
[356] Kensuke Kobo, "Cropping Pattern Changes in Andhra Pradesh during the 1990s," p. 216. Kobo relies on statistics published in the Indian Ministry of Agriculture's *Indian Agricultural Statistics* volumes.

16.5% of the net cropped area in the district was irrigated by tubewell. From 1991 to 1998, there was a 5% increase in tubewell-irrigated lands in the state, but again there was wide variation among the districts. The fastest increase was in Nizamabad. In 1991, 13.7% of the districts net cropped area was irrigated by tubewell; from then until 1998, this area increased by 22.5%.

Subsidizing electricity use by the farm sector had an effect on the state's overall economic development, particularly in the balance of support for agriculture versus industry. Increasingly throughout the 1970s and 1980s, the supplies of electricity to industrial consumers were curtailed to allow greater allocation to farmers. Unlike in Maharashtra, where industrial consumers were shielded by the barriers that surrounded the privatized Mumbai zones, industrial consumers in Andhra Pradesh relied on the same scarce resources as farmers. In the near term, the effect was a zero-sum game between competing classes of consumers.

The cuts for industrial consumers began in the 1970s, as the rural electrification program of the 1960s and 1970s was resulting in a greater demand for electricity that was not being met by greater supplies. In April, 1975, the government increased a power cut that was already in place on industrial consumers by an additional 10-20%, depending on the quantum of their needs. The APSEB also introduced a restrictive weekly quota system. Industrial consumers who exceeded their weekly ration would lose their power connection.[357] According to the state utility's annual reports, for the twenty-three years from 1977 to 2000, there were only nine years in which electricity consumers were not

[357] "Bigger power cut," *Indian Economic Diary* April 2-8, VI.14, p. 3121.

faced with power restrictions.[358] During the 1970s and until the mid-1980s, all consumers shared equally in the cuts, which were fixed at anywhere from twenty to thirty percent. From the mid-1980s through the rest of that decade, there was a noticeable skew in the way that power cuts were distributed among consumers. Those consumers who required the greatest amounts of energy (generally industry and manufacturing) faced restrictions of anywhere from thirty to sixty percent. For consumers who required smaller amounts of power, which would include farmers as well as domestic users, the APSEB imposed a much more modest restriction of anywhere from fifteen to thirty percent. During the 1990s, farmers and domestic consumers were entirely protected from the load restrictions that continued to affect large industrial consumers.

This continued to be the scenario as the reform decade of the 1990s unfolded. In what was an annual ritual, in January 1991, the APSEB cut electricity supplies to high tension consumers (the largest consumers of electricity) by 30%.[359] January is the height of the sowing season and farmers are therefore urgently in need of irrigation. In addition to the increased needs of farmers, shortages in coal supplies exacerbated the state utility's problems.[360] The power cuts were even higher in 1996, when power to some industries was restricted by between forty and sixty percent.

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[358] Transmission Corporation of Andhra Pradesh Limited, *Power Development in Andhra Pradesh (Statistics) 1999-2000*, (Hyderabad: AP Transco, 2000), Table 7.14 Power Restrictions (1977-2000).
[359] "Supply cuts again for Andhra Pradesh industry," *FT Energy Newsletters – Power Asia*, January 28, 1991.
[360] This points to a larger structural problem in the electricity sector that affects all utilities in the country. There are multiple actors at both the state and federal levels that must coordinate their activities along the electron production chain. From the dominant fuel source, coal, to transportation by the railways, and finally to the mostly state-owned generating facilities, there are endemic problems of coordination, and electric utilities are the final repositories for inefficiencies that stream throughout the chain of production. The two most obvious examines of these inefficiencies are from the coal and railways sectors, both of which are owned and operated by the Indian central government. Coal mines were nationalized and put

The reliability of power supply to industry changed only from 1998 onwards, when the power cuts on industrial consumers were lifted as the reform program began. For a state trying to improve the financial health of the utility in preparation for privatization, it made the most sense to supply as much power as possible to the utility's most lucrative consumers, those who paid the highest tariffs and consumed the greatest quantities.

Agricultural subsidies also had a negative impact on the functionality of the whole system. The flat rate system based on the size of the irrigation pumpset was introduced in November 1982, a few years after it was instituted in Maharashtra.[361] For the utility's bookkeeping, this meant that a huge quantum of electricity use was estimated rather than accurately measured. Over time, the utility used this category of agricultural consumption to hide electricity losses that were the result of aging and inadequate distribution and transmission equipment, and theft and corruption on the part of utility staff.

As the following narrative of Naidu's attempts to restructure and ultimately privatize suggest, his government was ultimately unable to make the necessary changes

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under the authority of Coal India Limited, a centrally-owned public sector company, in 1973. Since that time, and especially in some parts of the country like Bihar, which is rich in both coal supplies and state-sanctioned criminality, theft and corruption has come to pervade coal mining operations. To offset the losses from these inefficiencies, the prices for coal are increased, in turn affecting state utilities' finances. Railways have always been owned by the central government. High freight charges are used to cross-subsidize the rates for civilian rail traffic. This point was made to me during several interviews, particularly by critics of privatization as the solution to the sector's problems. Prabhir Purkayastha of the Delhi Science Forum made the point most succinctly. Interview with author, October 23, 2002, New Delhi.

[361] The shift to a flat rate system was initially resisted by the utility chairman, who correctly foresaw the longer term implications for the utility's finances. E. A. S. Sarma, Principal, Administrative Staff College of India (Hyderabad), Interview with author, March 5, 2003, Hyderabad. Sarma worked in APSEB from 1976-1978, when the government was first contemplating switching the billing systems. Thanks to resistance from him as well as the then chairman of the utility, Tata Rao, the utility delayed the shift until the early 1980s.

that would have led to greater quantities and better quality of power to attract new investments in the state. To get around this, his government embraced the option of creating special economic zones that allowed firms to bypass the restrictions that applied to the state at large. In his bid to turn Hyderabad into "Cyberabad," Naidu gave significant concession on land and infrastructure, including power, to information technology firms.[362] In addition, the government adopted a lenient approach to allowing industrial units to establish captive power plants and sell excess power back to the state grid.[363] These measures went some way toward attracting the kinds of private capital flows that Naidu's government believed were critical for the state's future development. The problem of changing policies for the entire state, however, was a much more entrenched one, as the next section suggests.

Power sector reforms in the 1990s

Andhra Pradesh was at the leading edge of the World Bank's new focus on state-level lending program that began in the mid-1990s. It is a poor, populous state, but it also had at its helm a politician in Naidu who set out to re-orient the state's policy agenda towards development. By "development," Naidu envisioned engaging the latest

[362] For example, the "Information and Communications Technology (ICT) Policy of the Government of Andhra Pradesh 2005-2010" (Hyderabad: Government of Andhra Pradesh, 2005) allowed small and medium sized firms a 25% rebate on the power bills for three years. The "Andhra Pradesh Policy on Information Technology Enabled Services (ITES) 2002" (Hyderabad: Government of Andhra Pradesh, 2002) exempts ITES firms from the statutory cuts that had crippled industry in the state for the preceding three decades.

[363] The Andhra Pradesh Electricity Regulatory Commission announced in October 2003 that no consumer would require consent or permission to install a captive power plant or generator of any size or capacity. APERC, Press Release dated December 2003.

technologies in both governance and economic activity, gradually easing the government out of productive spheres and into a more regulatory capacity, and allowing private capital to finance future growth.

Andhra Pradesh's power sector reforms, assisted by the World Bank's loan for a power restructuring program, were just the largest part of a broad array of reforms programs fueled by Bank lending. From mid-1998, when the Andhra Pradesh Economic Restructuring Project was initiated, through 2004, when Naidu lost the chief ministership, the total volume of Bank lending to Andhra Pradesh totaled nearly US$1.6 billion from mid-1998. According to both Naidu as well as the World Bank, though, among all of the various reforms programs, the power sector reforms were the most critical.[364]

A World Bank document from 1997 first defined the parameters for the myriad reforms programs that would follow. After a long section in the report dealing with the state's finances, the bulk of the substantive part of the document deals with six critical sectors that require restructuring, including power, irrigation, roads, ports, education, and health. In the section on the power sector, the report's authors identify a critical power shortage as the main challenge for the sector, and further argue that the power crisis can only be averted by private investment flows. These, however, are unlikely to materialize in the current scenario of massively subsidized tariffs and inefficient financial and

[364] The Bank's project appraisal document states that "the Government of Andhra Pradesh has launched an ambitious program for restructuring and reforming its power sector, complex and challenging by itself but made even more ambitious by the inter-linked objective to use power sector reform as a critical most important element of structural and fiscal reform in Andhra Pradesh." Energy Sector Unit, South Asia Region, "Andhra Pradesh Power Sector Restructuring Program, Report No. 18849IN (New Delhi: World Bank, January 1999), p. 8. Naidu, in a public forum in 2002, stated "I spend maximum time on the power sector. These reforms are important to my political career." "Power reforms crucial for my future, says Naidu" *Times of India*, April 21, 2002.

physical operations. In order to attract private capital, the state must carry out five main procedures. These are "a) adjust agricultural tariffs to reflect costs; b) privatize distribution progressively; c) create an independent and transparent regulatory system; d) corporatize power utilities and manage them as commercial entities; and e) enact reform legislation to enable implementation of the above reforms."[365] With respect to tariffs, the document further states that in order to improve the financial position of the distribution companies prior to privatization, tariffs for agricultural consumption must be increased to at least 50 paise/kWh in the short term and progressively increased so that the tariffs reflect cost of supply and reduce cross-subsidies; and electricity supply should be metered for farmers rather than charged on a per horse power basis.[366] As in Maharashtra, most farmers in Andhra Pradesh have opted to pay a per horse power supply rate rather than for a specific quantum of metered electricity. Agricultural tariffs were thus a central axis of the reform program, particularly critical if the state was to successfully attract private investment to the sector.

Just a few years later, however, the Bank's emphasis on the importance of raising agricultural tariffs to the all-around success of the restructuring and privatization program was revised considerably. Similarly, the Andhra Pradesh government under Naidu, who in several public statements had made clear that agricultural subsidies were unsustainable, shielded farmers from any tariff increases in the early years of the program. In a press interview in 1997, for example,

[365] Country Operations, Industry and Finance Division, South Asia Region, "Andhra Pradesh: Agenda for Economic Reforms" (New Delhi: World Bank, January 1997), p. 31.
[366] Ibid., p. 36.

Naidu stated that "reforms in the power sector were inevitable. The subsidy on agriculture at the cost of power to industries would one day badly hit the farm sector because there would be little revenue from industries to subsidise farmers…[Tariffs] will go up any way, reforms or no reforms. Prices of coal and other inputs have already gone up."[367] Despite these statements at the start of Naidu's reformist agenda, electricity rates for farmers, as the following narrative will make clear, were not increased until after the state assembly election in 1999, and even then were increased under the auspices of the statutorily independent electricity regulatory commission in the hopes that the political class would be shielded from the inevitable popular fallout.

The Bank's lending program for the Andhra Pradesh power sector began with a loan for US$ 210 million in January 1999. As an Adaptable Loan program, this first sum was intended to be the first in a series of five loans that would total US$ 750 million to fund the much larger reforms program; subsequent funds were to be released contingent on the state's performance during the first period. During the first loan period, the state government was expected to legislative electricity reform; constitute a regulatory commission; split up the existing utility into separate transmission, generation, and distribution companies that would function as independent corporate entities. The new distribution companies were expected to have gone through at least one round of tariff revisions with the new regulatory body. The 1999 Bank document states that while the agricultural tariff is well below a minimum acceptable threshold (below even the Rs. .50/kWh minimum that the central government had arrived at in consultation with states'

[367] Deva Kesava Rao, "India CM completes 2 years in office; sets 'dream' agenda," *The Hindu*, September 1, 1997.

chief ministers), "it is unlikely that in the short-term, under the current political situation the agricultural tariffs can be increased significantly…Once the Regulatory Commission comes into existence, the tariff setting would be depoliticized." The Bank and Naidu were thus explicitly willing to delay raising agricultural tariffs.

There were two main reasons that the Bank and Naidu were willing to relax the requirements for tariff increases for agricultural consumers. Unlike in Orissa, where farmers very quickly faced steep tariff increases, in Andhra the farmers are a powerful, numerous, and organized political force. Both to prevent electoral losses in the next assembly elections as well as to deflect popular protest, Naidu understood that delaying tariff increases for farmers would be critical to his longer-term electoral prospects. Both the Bank and the central government were willing to make concessions to Naidu's government because of the critical role he played in the precariously balanced coalition government at the center, where he leveraged his strength not by directly entering the coalition but by providing outside support that he could strategically threaten to withdraw. Other analysts of India's coalition governments as well as the World Bank's state-level lending programs emphasize that Andhra Pradesh received special treatment from both the central government and the World Bank because of the important role that Naidu's Telegu Desam Party played in central coalition politics.[368]

[368] Jason Kirk, "The World Bank and the Federal Politics of Economic Reform in India: Structural adjustment lending goes subnational" Unpublished Ph.D. thesis, University of Pennsylvania, 2005. In a chapter explaining how Andhra Pradesh came to be chosen along with Uttar Pradesh and Karnatak for the Bank's subnational lending program, Kirk suggests that both the central government and the World Bank were keenly aware of Naidu's political power vis-à-vis the fragile United Front coalition government that ruled the center from 1995-1997, and in which he was a constituent, as well as the Bharatiya Janata Party-led National Democratic Alliance that ruled from 1998 to 2004, in which Naidu's TDP supported from the outside. See in particular Chapter Four.

To lay the groundwork for the subsequent restructuring and privatization program, Naidu's electricity sector reforms preceded the World Bank loan by several years. Naidu introduced a bill in the state assembly restructure the Andhra Pradesh State Electricity Board (APSEB) in early 2007. Immediately the unions responded by declaring an indefinite strike that had no negative impact on power supply in the state. Also immediately, the main opposition parties in the state, including the Congress, Communist Party of India, and Communist Party of India (Marxist) but excluding the Bharatiya Janata Party, staged a sit-in in the assembly to protest the reform program. Naidu's response in the state assembly was to read from the national Congress party's election manifesto from the most recent parliamentary elections, in which the party pledged to reform the power sector through the same program of restructuring and privatization that the state unit of the political party was now opposing in Andhra Pradesh.[369] The federal politics of economic reform have meant that many political parties implement economic liberalization in states in which they form the government, yet oppose vehemently the same reforms in states in which they are the opposition. Just to the north of Andhra Pradesh, the Congress-ruled Orissa was carrying forward the utility privatization that the previous Janata Dal government under Biju Patnaik had initiated. The same phenomenon characterizes diverging policy stances between the national and provincial units of political parties. The reason that the BJP did not participate in the opposition protest was that by this time, the TDP had already emerged as an important constituent of the federation of parties brought together by the BJP in the

[369] "India Bill introduced as power staff go on strike," *The Hindu*, April 28, 1998.

national coalition government. In a press conference that followed the political and union opposition Naidu pledged that notwithstanding the World Bank's lending agreements, the electricity rates for farmers would not be increased.[370]

The vocal opposition to the reform legislation continued into the next day's assembly meetings, and the members of the Congress, CPI, CPI(M) and several smaller parties were suspended for stalling the assembly's proceedings.[371] In the absence of the opposition, the remaining legislators, mostly Naidu's party-men in the Telegu Desam Party, passed the reform legislation without disturbance. The TDP's nearly two-thirds majority in the assembly would have ensured the legislation's passage even had the opposition been present. The legislation accomplishes a number of restructuring tasks and paves the way for broad private sector participation in what in Andhra Pradesh previously had been an entirely government-owned sector. In addition to establishing a regulatory commission, splits up the vertically integrated utility into separate transmission, distribution, and generation companies. The most contentious part of the legislation, and the one that garnered much of the opposition prior to its passage, is the room it leaves for private companies to enter into all three facets of the electricity business.[372] Even more than the sale of state assets to private companies, however, the opposition focused their attention on the World Bank's role in the program arguing that Naidu had allowed the state's policy to be directed by the Bank's global headquarters.[373] Given the World Bank's involvement with many areas of the state's policy agenda, this

[370] Ibid.
[371] "India Power Bill passed; Opposition suspended," *The Hindu*, April 29, 1998.
[372] *Andhra Pradesh Electricity Reform Act, 1998*, Hyderabad, Anhdra Pradesh. Part VI of the Act deals with granting licenses to non-State actors for transmission and supply (or distribution).
[373] Amarnath K. Menon, "Andhra Pradesh: Ramming home reforms," *India Today*, May 11, 1998, p. 30.

anti-globalization, anti-World Bank position became the central thrust of the opposition's political strategy from 1998 to 2004, when the Telegu Desam Party's ten-year reign came to an end.

By the end of 1998, after the government disaggregated the public utility into separate generation, distribution, and transmission companies, and in preparation for distribution privatization, the state government began the necessary tariff increases. Despite Naidu's earlier pledges that farm tariffs were unsustainable and must be increased, the government's tariff increases completely bypassed agricultural consumers. Instead, the rates increases affected approximately 400,000 domestic consumers who used more than a certain quantum of power (protecting the poorest consumers from the upward revision), 300,000 commercial consumers, and high tension industrial consumers.[374] Both of the latter two categories already paid higher tariffs relative to other states in India, and much higher tariffs than non-Indian commercial and industrial consumers. And yet, despite Naidu's earlier position that agricultural subsidies were unsustainable, the bulk of the state's electricity customers, which includes 1.8 million farmers, and 6.9 million residences, were completely protected from the changes.

Instead of increasing the utility's revenues from farmers by raising their tariffs, the government in 1998 launched a campaign to depress agricultural consumption of electricity. During the sowing season that came just two months before the tariff revision,

[374] "Power tariff hiked for HT, bulk consumers," *The Hindu*, December 29, 1998

the government started an agricultural extension program to teach farmers about the benefits of planting less water-intensive crops than rice.[375]

In response to the tariff increase, the opposition political parties claimed that the electricity reforms were already proving to be "anti-people."[376] In fact, Naidu and the World Bank had clearly allowed political pragmatism to govern the reforms so far. The tariff increases affected only middle class consumers, industrialists, and small business people, who protested the apparent reversal in Naidu's stance from an earlier unwillingness to increase the burden on industry.[377]

Two things inform the government's allocation of tariff increases: the imminent state assembly elections, and the rural protests that had accompanied the last attempt at raising farmers' electricity tariffs. In 1995, shortly after seizing the chief ministership from his father-in-law and founder of the TDP, Naidu raised electricity rates for farmers. In response to large-scale protests and opposition from farmers' groups, the government granted a subsidy to the utility so that it could maintain the lower electricity tariffs for farmers. Farmers' groups had already expressed their opposition to the utility restructuring, rightly fearing that the road from restructuring to privatization would require that their subsidized access to electricity be severely curtailed if not eliminated.[378]

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[375] "Andhra Pradesh move to cut rabi paddy area," *Business Line*, October 12, 1998.
[376] "Congress dharna against power rate hike," *The Hindu*, January 6, 1999.
[377] The Federation of Andhra Pradesh Chamber of Industries met in February 1999 to publicly urge Naidu to reconsider the policy change, claiming that smaller industries in particular would be pushed to the brink, and even threatening to launch an industrialists' hunger strike. "FAPI wants government to withdraw power tariff hike," *Business Line*, February 15, 1999.
[378] Meetings of the leaders of several farm organizations, such as the Peddireddy Thimmareddy Farm Foundation, which had led the earlier agitation against the tariff increase in West Godavari district, and the Rythanga Samakya, were held in October 1997. The leaders voiced their opposition to privatization, particularly in the face of the erratic and poor quality of power supplied by the utility. "Farmers oppose bid to restructure Andhra Pradesh State Electricity Board," *Business Line*, October 7, 1997.

No private company would be willing to purchase a distribution system in which the majority of the consumers paid a tariff that was a fraction of production costs.

The other variable impacting Naidu's decision was the imminent state assembly elections. For Naidu's part, his desire to appear "reformist" to international donors and sell himself within his state as development-minded required that the government impose some tariff increases.[379] However, his need to maintain the populist agenda that the TDP had become almost synonymous with, required that the tariff increases spare the largest part of the population, and most importantly, the rural vote banks. This was possible since the allocation of the tariff increases was subject to the government's discretion, as even the World Bank had agreed that it was not politically feasible to raise rates for farmers.

Electricity politics were likewise a central concern of the main opposition party in the state, the Congress. In the run-up to the assembly elections, the main emphasis of the Congress party's agenda was a promise to reinstate free power for farmers. However, because the rate that farmers were paying was already so low, the promise did not have the intended effect. James Manor has pointed out that another aspect of the regionalization of Indian politics—that is a shift in the locus of power and importance to the provincial levels—is also reflected in the rhetoric and policies of the two national parties, the Congress and the BJP.[380] He points out that the state units of the Congress in

[379] An India media report on the reasons for the tariff increases reported that a 10% increase in tariffs was part of the World Bank's stipulation for the lending program. "Naidu's power problems," *The Hindu* January 3, 1999. However, this does not appear as an explicit conditionality in the World Bank's *Andhra Pradesh Power Sector Restructuring Program* report document.

[380] James Manor, "Explaining political trajectories in Andhra Pradesh and Karnataka," in *Regional Reflections: Comparing politics across India's states*, ed., Rob Jenkins (New Delhi: Oxford, 2004),

particular, come to take on the same political identity as their main regional opponents. In the case of Andhra Pradesh, this has meant that the Congress has counterposed the populism of the TDP with its own variant of profligate consumption subsidies, as their 1999 election agenda demonstrates.

Although there were many other parties in the fray, including the BJP and the various communist parties, the 1999 election became a two-way contest between Naidu, who projected himself as "development-oriented" and YSR Reddy, the Congress politician, whom Naidu protrayed as regressive. As with the electricity reforms, however, Naidu changed policies just enough to comfortably fit the label of a "development-minded politician," but not enough to actually disrupt the system of consumption and production subsidies that benefited the majority of the state's citizenry. Naidu's Telegu Desam Party captured 180 (out of 294 seats) and 43.9% of the vote, as again the Congress's 91 seats and 40.6% votes. Some would go further in pointing out the split between Naidu's rhetoric of liberalization and practice of continuing a style of populist business as usual.[381] The international business press proclaimed that Naidu's victory signaled that a new style of business-oriented politics was on the ascendant, a statement that belies both an exaggeration of the TDP's victory (which was only slight), and ignorance of the actual state of economic policies under Naidu.[382] Many Indian

[381] Ibid., p. 264. Manor writes, "Naidu took a few modest steps down this road [of liberalization]—and made much of them to donors and investors." Later in the same piece, Manor points out that Naidu used the bulk of the funds from the World Bank to finance highly populist development policies that were then "advertised as benefits flowing directly from Naidu himself." P. 265.

[382] Just before the election, one account stated that "If he is elected, that will show it is possible to stress productivity and decentralisation, rather than subsidies, and still win. What is at stake is not just Mr Naidu's future but a change in the prevailing political thinking among India's states." "Booting up in Andhra Pradesh," *The Economist*, September 11, 1999; After the election, another account reported that

analysts of the elections attribute the TDP's victory to a combination of Naidu's populist development policies as well as his party's last minute decision to ally with the BJP.[383]

Just months after the election's end, Naidu held a meeting with his fellow TDP legislators about the power sector. During the meeting, he suggested that tariffs would increase, that as politicians it would be their duty to explain the reason for the increases to their constituents, and that there would be 15% tariff increases for each of the next three years.[384] The increase, when it finally came six months later, was much larger than any in the political class was prepared for. By this time, a critical new actor had emerged, the Andhra Pradesh Electricity Regulatory Commission. The Commission, which came into being in early 1999, took over the tariff-setting responsibilities from the utility and the government in late 1999, although the tariff revision of 2000 was the first under its sole direction. APERC raised tariffs fro all classes of consumers, but the rates for domestic consumers increased by the largest amount. Second only to farmers, domestic consumers are the most heavily subsidized class of electricity consumers in most Indian states, including Andhra Pradesh. Unlike the tariff increase imposed last year, which targeted middle class consumers, this increase affected even the poorest consumers. The average increase was 50%, but this climbed to 81% for those with the lowest monthly consumption. For farmers, the tariff increased to 25 paise per unit (still a

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"Something amazing happened in Indian politics….In the large southern state of Andhra Pradesh, the party that promised the biggest freebies lost. And the politician who warned that there's no free lunch won." Celia W. Dugger, "Surprise in Indian State: politics of promising fails," *New York Times*, October 9, 1999.

[383] Rajen Harshe and C. Srinivas, "Vote for Development: How sustainable?" *Economic and Political Weekly*, Vol. 33, No. 44 (October 30, 1999): 3103-05.

[384] "Power tariff hike on the cards," *The Hindu*, November 19, 1999.

massive subsidy).[385] In giving its rationale for the decision, the APERC explicitly claimed that with this new set of increases, the cross-subsidy burden (on account of farm subsidies) that had been borne exclusively by industrial and commercial consumers, would now be shared by domestic consumers as well. In public, Naidu claimed to be as surprised by the tariff increase as everyone else, but asserted that the government was statutorily prevented from interfering in the decision-making of the independent regulator.[386] The only way the government could mitigate some of the effects of the increase was to provide a subsidy to the utility, and thereby shield domestic consumers from approximately 50% of the tariff increase.[387]

The APERC's tariff decision, which was implemented by the utility only two weeks after it was announced, fomented a long-standing protest led by opposition political parties. The protest was joined by farmers' organizations as well as civil society groups opposed to the World Bank's involvement in the state, but the primary organizers were political actors.[388] The agitation against the tariff increases turned into the longest-standing public protest that was based on an economic issue.[389] Among the tactics employed by the protestors were staging day-long fasts, surrounding and locking up utility staff in regional headquarters and offices, holding rallies and marches, and

[385] "Riding two horses," *The Hindu*, June 4, 2000.
[386] R. J. Rajendra Prasad, "Opposition plans agitation against power tariff hike in Andhra Pradesh," *The Hindu*, May 29, 2000.
[387] "Naidu promises more subsidy for APTransco," *The Economic Times*, June 6, 2000.
[388] LokSatta, one of Andhra Pradesh's most influential NGOs that was formed by prominent bureaucrats, journalists, and social activists, published several statements about electricity politics during 1999 and 2000. The organization, which is based in Hyderabad, argued that while tariffs for farmers should be subsidized to some degree, the expansive subsidies provided by the state for the last several decades had resulted in over-exploitation of groundwater resources, ecological damage, and had allowed the utility to mask its own inefficiencies.
[389] Prominent among the non-economic issues to arouse the public are the separatist movements in the Telengana and Coastal Andhra regions that have periodically riven political life in the state.

destroying local utility offices. The political opposition from the Congress and CPI (M) that spearheaded the protests also urged customers to stop paying their bills. Eventually, the sweeping political opposition influenced even Naidu's fellow legislators and party workers in the TDP to oppose the tariff increases. In several general body meetings of the TDP in different districts of the state, power politics dominated the discussion, and the Deputy Speaker of the assembly, a TDP legislator named A. Chandrasekhara Rao, wrote a public letter urging the chief minister to intervene. In what became an embarrassment to the chief minister, the language of the letter exhorted Naidu to allow the common man to at least hold onto his "langot" (underwear).[390]

The opposition protests continued for ten weeks, until the assembly re-convened in August and the debate was once again focused on the electricity sector. In the assembly, Naidu argued that the government was unable to force the APERC to revise its decision, and that the only thing the government could directly do was provide a subsidy to offset the costs to consumers. This the government was already doing for agricultural consumers. In total in 2000-2001, the state government was estimated to pay a subsidy of Rs. 1,626 crores (roughly US$ 300 million) to the utility so that it could continue the subsides for farmers. To fully offset the tariff increases for middle class consumers, the state government would have to provide an additional subsidy of nearly Rs. 800 crores (another US$ 150 million).[391] The debate in the assembly lasted for almost a week, led to the suspensions of many opposition legislators, displaced assembly debate on other

[390] R. J. Rajendra Prasad, "Power tariff hike: pressure mounts for a rollback," *The Hindu*, June 14, 2000.
[391] "Stalemate continues in Assembly," *The Hindu*, August 17, 2000.

subjects like the state budget, and even led to deaths as police responded with force to a demonstration outside of the assembly building.[392]

The protest was finally quelled when the chief minister increased the government's subsidy to the utility, which in turn brought down the tariff hike from 20% to 14.5%, and presented the agreements that the government had signed with the World Bank for the restructuring program to the assembly.[393]

In the run-up to the next assembly elections, however, even the modest tariff increases for agriculture that Naidu's government had managed to implement were rolled-back in an attempt to appease the numerous farm sector. Naidu promised to deliver nine hours of uninterrupted power supply to all rural areas; the Congress, led again by YSR Reddy, trumped this by again promising free power for farmers.[394] The politics of power played some part in the elections, although many other factors also led to Naidu's defeat. In a sign of how the Congress party interpreted its electoral victory, immediately after the election results were declared, Reddy and his new government implemented farmer-friendly policies, including free power and a waiver for unpaid bills. As one media outlet reported on it,

> "Minutes after being sworn in Chief Minister of Andhra Pradesh, Dr. Y. S. Rajasekhara Reddy signed a file in full public glare to give effect to the Congress-I's pre-poll promise of free power to farmers. A little over 23 lakh [2,300,000] farm connections will benefit. This means an annual outgo of Rs. 436 crore [US$ 86 million] and the one-time waiver will leave the exechequer poorer by Rs. 1,192 crore [US$ 238 million]."

[392] "Congress, Left, MIM members suspended," *The Hindu*, August 19, 2000; "Andhra's power play," *The Hindu*, August 30, 2000.
[393] Alan Beattie, "World Bank forced to defend plans in India," *Financial Times*, November 15, 2000.
[394] "AICC clears free-power campaign," *The Times of India*, July 23, 2002; "Give top priority to farm sector: Naidu," *The Times of India*, October 3, 2002.

With this, Andhra Pradesh's experiment with electricity privatization ended. The World Bank, in its completion report for what had initially been planned as just the first tranche of a much larger lending project, noted that "subsidized power supply to agriculture is a deeper public policy issue and not a mere sectoral issue" and later, that "unless the distribution business becomes viable and commercial risk of power supply to agriculture is minimized the successful privatization of the Discoms in the present structure would be difficult."[395]

In the end, the Indian politician who was the most vocal advocate of economic liberalization was unable to privatize the electricity distribution business, thanks largely to a state political economy in which significant developmental resources had been extended in earlier periods to provide electricity-based irrigation, and farmers relied on expansive input subsidies to generate profits. More than other cases, Andhra Pradesh under Naidu reveals the extent to which a political will to change is insufficient in the face of structural conditions that favor the status quo.

Conclusion

This case study of Andhra Pradesh rounds out the selection of cases examined in the thesis. In Andhra Pradesh, Chief Minister Naidu, the most ardent advocate of economic liberalization, was unable to counter the built-in resistance to privatization

[395] Energy and Infrastructure Unit, South Asia Region, "Implementation Completion Report on a Loan in the Amount of US$ 210 milion to the Government of India for Andhra Pradesh Power Sector Restructuring Project," (Washington D.C.: World Bank, February 20, 2004), p. 23.

posed by extensive rural subsidies. In the first two cases of the thesis, Orissa and Delhi, privatization was achieved with none of the political posturing and maneuverings evident in Andhra Pradesh during Naidu's attempts to privatize his state's distribution infrastructure. The importance difference is the lack of subsidies for farmers in the cases of successful privatization and their robust presence in Andhra Pradesh and Maharashtra. The cases of Andhra Pradesh and Maharashtra—in which rural subsidies are an important part of state-level political economies—are more characteristic of the other large states in India, especially those that during the decades of the 1970s and 1980s devoted resources to rural development. The more successful rural developmental states, those that implemented Green Revolution technologies to increase agricultural productivity, were paradoxically locked into this equation of providing subsidies even when they were potentially no longer needed by rural beneficiaries. A state like Orissa, by contrast, skipped over that phase of political economic development that characterized the rest of the country during the 1970s and 1980s. In the absence of the interests that benefited from such subsidy policies, Orissa was therefore able to proceed more easily with the new agenda of economic liberalization and privatization during the 1990s.

Conclusion

The larger aim of the World Bank is to implement neoliberal reforms in the agricultural sector; it is just using reforms of the electricity sector as a means to achieve this.
Prabhir Purkayastha[396]

No reforms that aim to take away from rural India what little it has achieved in terms of state benefits – like subsidized power – and transfer these to other sectors or classes like industry will be sustainable because they are not politically sustainable.
Ashok Rao[397]

The previous four chapters discuss the electricity sector policies in four states in India, and suggest that differing configurations of what Bardhan calls the "dominant proprietary classes"[398] in India's political economy led to differing policy outcomes in the four cases during the period from 1991 to 2003. Orissa and Delhi pursued privatization in the absence of the rural beneficiaries of electricity who are locked into India's agriculture's "subsidy syndrome."[399] Although Maharashtra was considered an ideal candidate for the restructuring and privatization that swept across much of the developing world (particularly Latin America) throughout the 1990s, the government never seriously entertained such policies. The opponents of privatization were not only politically potent but also held the reins of state power in the government and cooperative institutions. The advocates of reform, the industrialists and middle-class consumers, were in a sense

[396] Author interview with secretary of the Delhi Science Forum. New Delhi: October 23, 2002.
[397] Author interview with member of National Working Group on Power, New Delhi, October 17, 2002.
[398] Bardhan, *Political Economy of Development in India*. According to his framework, the three dominant proprietary classes which have a stranglehold on Indian public policy are the industrial capitalist class, rich farmers, and public sector professionals.
[399] Gulati and Narayanan, *Subsidy Syndrome in Indian Agriculture*. As the authors point out, while developed countries primarily support agriculture through policies that raise output prices, most developing countries have done so historically by lowering input prices, leading in India to an illness they label a "subsidy syndrome."

neutralized in this debate about utility ownership because the city of Mumbai was already served by private companies. In Andhra Pradesh, the state government's desire to stimulate economic development by encouraging investments in industry, manufacturing, and services put the state on the reform path from which it was quickly derailed by electoral compulsions. The reformist chief minister, Chandrababu Naidu, was defeated in an election that is consistently interpreted to mean that ending populist subsidies is political suicide in Andhra Pradesh politics. The new chief minister's restoration of free power for farmers seems only to underscore such an interpretation.

The findings of those chapters set up an expectation that privatization or any kind of policy that threatens the extensive system of agricultural subsidies benefiting medium to large farmers in most states (the exceptions being parts of India like Orissa and Delhi) is difficult if not impossible. It is particularly so in those parts of India where peasant movements built on solidarities of caste and community asserted a stake in local power structures in earlier decades. The argument sketches a process of path-dependence: thanks to successful developmental policies of extending electricity-based irrigation (Green Revolution), coupled with lower caste political mobilization during the 1960s and 1970s, certain parts of India have become locked into patterns of state ownership even though there were strong international and national pressures to pursue electricity privatization.

The prospect of electricity policy in India: Punjab as a portent of the future

Political economies are not static. Just as India's Green Revolution created a new set of agrarian actors with a stake in commanding how state governments allocated scarce development resources, the current period of broader economic liberalization is creating new actors that may begin to lobby for changing agricultural policies. As their numbers and political influence increase, they may become the critical new actors in pro-reform coalitions. This was brought home to me most sharply during a brief fieldwork foray into the north Indian state of Punjab.

Punjab is the wealthiest state in India by many metrics, including per capita income. More than any state it reaped the advantage of central government allocations to implement Green Revolution policies during the 1960s and 1970s. And more than any other group, Punjab's wheat farmers have disproportionately benefited from India's massive grain procurement program that guarantees minimum prices for grain that is meant to be distributed to the poor, but more commonly is fated to rot in government warehouses. Landholdings in Punjab tend to be much larger than in other parts of India, and land fragmentation is also much less than anywhere else. By the 1980s farming was profitable enough that a new trend emerged of larger farmers renting land, or "leasing-in" plots, from small-farmers.

On April 5, 2003, in response to indications that the Punjab government was entertaining Orissa-style restructuring and privatization (which ultimately foundered), the electricity engineers associations of the Punjab State Electricity Board (PSEB) organized

a one-day conference in the Punjabi city of Ludhiana on the "Challenges before power sector in Punjab." The panel was presided over Padamjit Singh, the chief engineer of the PSEB. Among the other panelists were M. S. Bajwa, whose promotion to Superintending Engineer of PSEB had been celebrated the evening before; Suresh Gupta, who worked in PSEB as an engineer since the 70s and retired in 2003 as the technical member of the PSEB; Ajmer Singh Lakhowale, president of the Punjab Bharatiya Kisan Union (BKU);[400] Manjit Singh, general secretary of the BKU; and J. S. Hara, a man who was introduced as a "progressive farmer" and the recipient of several awards for farming.

The two leaders of the Punjab BKU, Lakhowale and Singh, stated that the proposed electricity sector restructuring and privatization were not acceptable. Singh further complained that the committee that put together the restructuring proposal had not consulted a single farmers' association and yet claimed to have held meetings with important stakeholders in the state. Six months earlier, in October 2002, the Congress party's newly elected state government announced that the free power policy of its predecessor government would be terminated. The response from farmers' groups was immediate. Within two weeks, several farmers' associations came together to blockade roads and railroads across the state on October 29. During that agitation, the same Lackowale who spoke at the Power Engineer's conference announced that farmers would continue with such grass-roots protest activities, but also that the BKU would protest the state government's decision through litigation.[401]

[400] BKU translates as Indian Farmers' Union.
[401] "Farmers block rail, road traffic," *The Tribune* (Chandigarh Edition), October 30, 2002.

In his opening remarks, J. S. Hara, the "progressive farmer" which in the Punjab context generally means a larger-landowner who has sufficient capital and the outlook to embrace new technologies in farming and new outlets for products, said that he had come to the conference prepared to denounce the government's restructuring proposals, but that what he had heard from other panelists had now convinced him to rethink his position. He argued that the initial resistance to the entry of private actors in the electricity distribution business sounded much to him like the initial outcry against private banks in the early 1990s. The claim then, he said, was that private banks would refuse credit to agriculturalists and monopolize state resources. He argued that this did not happen. For many farmers, especially those like him with good credit and sufficient collateral, the entry of private banks had meant greater credit options. The other panelists' remarks about the electricity sector now sounded to him very similar. He went on to add that India's accession to the World Trade Organization meant that Indian farmers would have access to new markets. So long as private distribution companies supplied farmers with high quality electricity, there should be no opposition among farmers to paying market rates.[402]

Later research revealed that Hara was a newsworthy farmer in Punjab. Two decades earlier, a British paper had featured Hara in a news report on the two faces of Indian farming: the small minority of thriving, larger farmers typified by Hara; and the vast majority of India's 500,000 million small landowners who barely reap a subsistence from their small plots of land, exemplified by a farmer named Shankar Solaba in northern

[402] J. S. Hara spoke in Punjabi, and his remarks were translated for me immediately afterward by Ashok Rao and Padamjit Singh, two of the organizers of the conference.

Maharashtra.[403] Singh's newspaper profile told of his "swimming pool, large bank account" and "ultramodern bungalow" in a village just outside of Ludhiana where with the help of mechanization, input intensification, and twenty-five laborers he has been able to switch from single-cropping to growing three and in some cases four crops annually on his ninety acres. Decades later, Hara had transformed his 90 acre operation into the Hara Seed Farm, and shown himself to be keenly responsive to market signals. As the profit margins of the Basmati variety of rice increased due to the growth of export markets and in urban India, Hara shifted from other rice varieties to Basmati cultivation. During a meeting organized by the Punjab government, urged his fellow farmers to do the same.[404]

There are signs that Hara is not alone in Punjab and that the ranks of "progressive farmers" may be increasing. The government meeting at which Hara urged other farmers to plant Basmati was meant to showcase the launch of an aggressive contract farming scheme that would bring Indian corporate houses into agriculture after decades of being excluded. Various government measures like the Punjab Agricultural Produce Markets Act, 1961 (which had corollaries in most other states) curtailed who could buy and trade agricultural products, limiting the actors to farmers themselves and government procurement centers. In Punjab, this act was amended in 2005 to allow private companies to own and operate produce markets, paving the way for corporate forays into agriculture either through direct leasing-in of land, or more commonly through contracts with individual farmers. Hara was one such farmer who supplied Basmati rice on a

[403] Richard Cowper, "500m Indians work on the land," *The Financial Times* (London), May 24, 1982.
[404] "Basmati the best bet for diversification," *The Economic Times*, April 28, 2003.

contract-basis to the Indian corporate firm Escorts Ltd., who in turn had allied with three rice exporters to send the grain abroad.[405]

By 2006, thirteen other states had amended their agricultural produce market acts to allow private actors in agriculture, spurring a rash of new corporate initiatives that included some of India's largest corporate houses like Tata and Sons, Reliance Industries, and Bharti Enterprises.[406] It is still far too early to evaluate the extent or the likely outcome of these initiatives, but larger farmers like Hara are the most likely to participate as contract farmers. As these farmers find new markets for their goods that are not dependent on government procurement, they may also be among the new voices supporting other kinds of economic liberalization, including changes in how inputs like electricity are priced and distributed. Their support for liberalization will be strengthened if the new private electricity distributors deliver better quality and more assured supplies of electricity.

When I first heard the two quotes that opened this chapter during interviews, I thought they sounded far-fetched as explanations for either the causes of or the resistance to electricity sector liberalization, perhaps bordering on the genre of "conspiracy theory." As I later came to understand the central role that the agricultural sector plays in electricity sector policies the statements seemed less fanciful, although attributing all of the causal weight to the World Bank is still problematic. As the four case studies

[405] "Escorts arm in tie-up for basmati exports – Contract farming initiative takes off with three firms signing deal," *Business Line*, May 7, 2003.
[406] Irshad Daftari, "Contract farming lures India Inc biggies," *The Economic Times*, May 8, 2006.

demonstrate, not all privatizing states were World Bank loan recipients (Delhi), and not all World Bank recipients were able to restructure and privatize (Andhra Pradesh).

The critical role of agriculture in the electricity sector, however, does seem to be substantiated. Subsidies to the agricultural sector have been steadily consuming a larger share of government spending, particularly of state government expenditure, and are routinely cited as the main cause of the states' deteriorating fiscal positions. And a wide-spread ecological crisis is developing as more and more groundwater from subterranean pools is exploited by subsidized irrigation pumpsets without adequate time or means being given for the reservoirs to recharge. Finally there is a continuing inequity in who benefits from rural electrification; on one side are the medium and large farmers who corner the lion's share of state subsidies, and on the other are the far greater number of landless laborers or small farmers who cannot afford the costs of acquiring and maintaining electricity connections and pumpsets. Even if state governments can ally with new actors in the farm sector to enact liberalization, privatization of public utilities and a shift in the tariff structure alone will not solve the problem of the 400,000 million Indians who are still off-grid in India.

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